

Apple Pro Training Series

OS X Server Essentials 10.9

Using and Supporting OS X Server on Mavericks

Arek Dreyer and Ben Greisler

Lesson and media files available for download



Certification exam preparation for:
Apple Certified Technical Coordinator 10.9

Apple Pro Training Series

OS X Server Essentials 10.9

Arek Dreyer and Ben Greisler



Apple Pro Training Series: OS X Server Essentials 10.9
Arek Dreyer and Ben Greisler
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— Arek Dreyer

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— Ben Greisler

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Contents at a Glance

Configuring and Monitoring OS X Server

Lesson 1	About This Guide	3
Lesson 2	Installing OS X Server	13
Lesson 3	Providing DNS	71
Lesson 4	Exploring the Server App	91
Lesson 5	Configuring SSL Certificates	111
Lesson 6	Using Status and Notifications	153
Lesson 7	Backing Up OS X Server	165

Configuring Accounts

Lesson 8	Managing Local Users	177
Lesson 9	Configuring Open Directory Services	225
Lesson 10	Managing Local Network Accounts	251

Managing Devices with Configuration Profiles

Lesson 11	Configuring OS X Server to Provide Device Management	281
Lesson 12	Managing with Profile Manager	291

Sharing Files

Lesson 13	Configuring the File Sharing Service	329
Lesson 14	Understanding File Access	361

Implementing Deployment Solutions

Lesson 15	Leveraging NetInstall	403
Lesson 16	Caching Content from Apple	431
Lesson 17	Implementing Software Update Service	441

Providing Network Services

Lesson 18 Offering Time Machine Network Backup 453
Lesson 19 Providing Security via the VPN Service..... 467
Lesson 20 Understanding DHCP 481
Lesson 21 Hosting Websites 499

Using Collaborative Services

Lesson 22 Providing Mail Service 523
Lesson 23 Configuring the Wiki Service 541
Lesson 24 Implementing Calendar Service..... 553
Lesson 25 Providing Messages Service 569
Lesson 26 Managing Contacts Service 587
Index..... 593

Appendix A Lesson Review Questions and Answers A-1

Appendix B Additional Resources..... B-1

Bonus chapters mentioned in this eBook are available after the index

Table of Contents

Configuring and Monitoring OS X Server

Lesson 1	About This Guide	3
	Learning Methodology.....	4
	Lesson Structure	5
	Exercise Setup	6
	Apple Training and Certification	10
Lesson 2	Installing OS X Server.....	13
Reference 2.1	Evaluating OS X Server Requirements	13
Reference 2.2	Preparing to Install OS X Server.....	17
Reference 2.3	Installing OS X Server	27
Reference 2.4	Upgrading or Migrating to OS X Server	28
Reference 2.5	Updating OS X Server	29
Reference 2.6	Troubleshooting	30
Exercise 2.1	Configure OS X Before Installing OS X Server on Your Server Computer	31
Exercise 2.2	Perform the Initial Installation of OS X Server on Your Server Computer	46
Exercise 2.3	Configure Your Administrator Computer.....	55
Lesson 3	Providing DNS.....	71
Reference 3.1	What Is DNS?	71
Reference 3.2	Evaluating OS X DNS Hosting Requirements	73
Reference 3.3	Configuring DNS Service in OS X Server.....	75
Reference 3.4	Troubleshooting DNS Service in OS X Server	76
Exercise 3.1	Configure DNS Services	77

Lesson 4	Exploring the Server App	91
Reference 4.1	Allowing Remote Access	91
Reference 4.2	Using Server Sidebar Elements	94
Reference 4.3	Using the Manage Menu	104
Reference 4.4	Using the Tools Menu	105
Reference 4.5	Using Help and Server Tutorials	105
Reference 4.6	Troubleshooting	106
Exercise 4.1	Enable Screen Sharing And Remote Management	107
Exercise 4.2	Inspect the Service Data Volume	109
Lesson 5	Configuring SSL Certificates	111
Reference 5.1	Understanding SSL Certificates	111
Reference 5.2	Configuring SSL Certificates	115
Reference 5.3	Troubleshooting	136
Exercise 5.1	Create a Certificate Signing Request	137
Exercise 5.2	Import a Signed Certificate (Optional)	140
Exercise 5.3	Archive Your Certificate (Optional)	142
Exercise 5.4	Configure Your Server to Use Its New SSL Certificate	145
Exercise 5.5	Configure Your Administrator Computer to Trust an SSL Certificate	147
Exercise 5.6	Clean Up	151
Lesson 6	Using Status and Notifications	153
Reference 6.1	Monitoring and Status Concepts	153
Reference 6.2	OS X Server Alerts	154
Reference 6.3	Logs in OS X Server	155
Reference 6.4	Stats in OS X Server	156
Reference 6.5	Storage	157
Exercise 6.1	Use the Server App to Monitor Your Server	158
Lesson 7	Backing Up OS X Server	165
Reference 7.1	Backup Concepts	165
Reference 7.2	Time Machine	167
Exercise 7.1	Use Time Machine to Back Up OS X Server	169
Exercise 7.2	Restore from Time Machine Backup (Optional)	173

Configuring Accounts

Lesson 8	Managing Local Users.	177
Reference 8.1	Understanding Authentication and Authorization	178
Reference 8.2	Creating and Administering User and Administrator Server Accounts	179
Reference 8.3	Managing Access to Services.	192
Reference 8.4	Troubleshooting	195
Exercise 8.1	Create and Configure Local User Accounts	196
Exercise 8.2	Import Local User Accounts	205
Exercise 8.3	Create and Configure Local Groups	210
Exercise 8.4	Troubleshoot Problems with Importing Accounts.	217
Exercise 8.5	Manage Service Access.	218
Exercise 8.6	Clean Up.	223
Lesson 9	Configuring Open Directory Services	225
Reference 9.1	Introducing Directory Services Concepts.	225
Reference 9.2	Configuring Open Directory Services.	234
Reference 9.3	Troubleshooting	242
Exercise 9.1	Configure Your Server as an Open Directory Master	244
Exercise 9.2	Use Logs to Troubleshoot Using Open Directory	249
Lesson 10	Managing Local Network Accounts	251
Reference 10.1	Using the Server App to Manage Network User Accounts	251
Reference 10.2	Configuring Authentication Methods on OS X Server.	255
Reference 10.3	Using Single Sign-On and Kerberos.	259
Reference 10.4	Troubleshooting	264
Exercise 10.1	Create and Import Network Accounts.	265
Exercise 10.2	Configure Password Policies	273

Managing Devices with Configuration Profiles

Lesson 11	Configuring OS X Server to Provide Device Management	281
Reference 11.1	Profile Manager.	281
Reference 11.2	Configuring Profile Manager	282
Exercise 11.1	Enable Profile Manager	283

Lesson 12	Managing with Profile Manager	291
Reference 12.1	Introducing Account Management	291
Reference 12.2	Troubleshooting	303
Exercise 12.1	Use Profile Manager	304

Sharing Files

Lesson 13	Configuring the File Sharing Service	329
Reference 13.1	Addressing the Challenges of File Sharing	329
Reference 13.2	Creating Share Points	337
Reference 13.3	Troubleshooting File Sharing Services.	346
Reference 13.4	Providing FTP Service	347
Exercise 13.1	Explore the File Sharing Service	349
Exercise 13.2	Use Logs to Troubleshoot Problems with File Sharing Services	359

Lesson 14	Understanding File Access	361
Reference 14.1	Configuring Access to Share Points and Folders	362
Reference 14.2	Understanding POSIX Permissions vs. ACL Settings	368
Exercise 14.1	Configure Access Control	384

Implementing Deployment Solutions

Lesson 15	Leveraging NetInstall	403
Reference 15.1	Managing Computers with NetInstall	404
Reference 15.2	Creating Images with System Image Utility	408
Reference 15.3	Understanding Shadow Files.	412
Reference 15.4	Troubleshooting NetInstall	413
Exercise 15.1	Create NetInstall Images	414
Exercise 15.2	Create NetBoot and NetRestore Images	417
Exercise 15.3	Configure a NetInstall Server	420
Exercise 15.4	Filter NetInstall Clients	425
Exercise 15.5	Configure a NetInstall Client	427
Exercise 15.6	Monitor NetInstall Clients.	429

Lesson 16	Caching Content from Apple.	431
Reference 16.1	Understanding the Caching Service.	431
Reference 16.2	Configuring and Maintaining the Caching Service.	433

Reference 16.3 Comparing Software Update and Caching Services 436

Reference 16.4 Troubleshooting the Caching Service 438

Lesson 17 Implementing Software Update Service 441

Reference 17.1 Managing Software Updates 441

Reference 17.2 Troubleshooting the Software Update Service 442

Exercise 17.1 Configure Software Update 443

Exercise 17.2 Configure Computers for
Your Software Update Service 445

Providing Network Services

Lesson 18 Offering Time Machine Network Backup 453

Reference 18.1 Configuring Time Machine as a Network Service 453

Exercise 18.1 Configure and Use the Time Machine Service 454

Lesson 19 Providing Security via the VPN Service 467

Reference 19.1 Understanding VPN 467

Reference 19.2 Configuring VPN with the Server App 468

Reference 19.3 Troubleshooting 473

Exercise 19.1 Configure the VPN Service 474

Exercise 19.2 Clean Up 479

Lesson 20 Understanding DHCP 481

Reference 20.1 Understanding How DHCP Works 482

Reference 20.2 Configuring DHCP Service 485

Reference 20.3 Troubleshooting DHCP 490

Exercise 20.1 Configure DHCP Service (Optional) 492

Lesson 21 Hosting Websites 499

Reference 21.1 Web Service Software 499

Reference 21.2 Understanding Basic Website Structure 500

Reference 21.3 Monitoring Web Services 501

Reference 21.4 Troubleshooting 501

Exercise 21.1 Enable Web Services 502

Exercise 21.2 Secure Your Website 513

Exercise 21.3 Monitor Web Services 516

Exercise 21.4 Disable a Website 519

Using Collaborative Services

Lesson 22	Providing Mail Service	523
Reference 22.1	Hosting Mail Services.	523
Reference 22.2	Troubleshooting Mail Services	528
Exercise 22.1	Enable the Mail Service	528
Exercise 22.2	Send and Receive Mail	533
Lesson 23	Configuring the Wiki Service	541
Reference 23.1	Understanding and Managing a Wiki	541
Reference 23.2	Troubleshooting the Wiki Service	542
Exercise 23.1	Enable the Wiki Service.	542
Exercise 23.2	Edit a Wiki	549
Lesson 24	Implementing Calendar Service	553
Reference 24.1	Calendar Service Data Locations	553
Reference 24.2	Using the Calendar Service	553
Reference 24.3	Troubleshooting the Calendar Service.	555
Exercise 24.1	Configure and Start the Calendar Service.	555
Exercise 24.2	Use the Server App to Add Resources and Locations	558
Exercise 24.3	Access the Calendar Service as a User	560
Lesson 25	Providing Messages Service	569
Reference 25.1	Managing the Messages Service	569
Reference 25.2	Troubleshooting the Messages Service.	572
Exercise 25.1	Set Up the Messages Service	573
Lesson 26	Managing Contacts Service	587
Reference 26.1	Understanding the Contacts Service	587
Reference 26.2	Troubleshooting the Contacts Service	588
Exercise 26.1	Configure the Contacts Service with the Server App	588
Exercise 26.2	Configure OS X to Use the Contacts Service	589
	Index	593
Appendix A	Lesson Review Questions and Answers	A-1
Appendix B	Additional Resource	B-1

Bonus chapters mentioned in this eBook are available after the index

See last page of this eBook for instructions on downloading your lesson files.

Lesson 4

Exploring the Server App

Once you've completed your initial installation of OS X Server, the Server app opens its main configuration pane and you can continue configuring it. In this lesson you'll learn about the various panes available in the Server app. You will learn how to enable remote access to the Server app and how to move the location your server uses to store much of its service data.

Reference 4.1 Allowing Remote Access

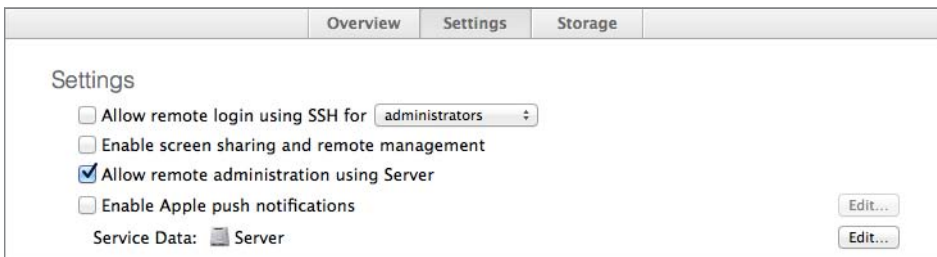
You can certainly administer your server on your server computer, but it's not recommended to use your server for your daily productivity applications.

You can use the Server app on any Mac with Mavericks to manage OS X Server running on a remote Mac, but only if the checkbox "Allow remote administration using Server" is selected. It is recommended that you do not simultaneously use the Server app on more than one Mac to administer a given server.

MORE INFO ▶ When you select the "Allow remote administration using Server" checkbox, you enable other Macs to use the Server app to configure your server using TCP port 311.

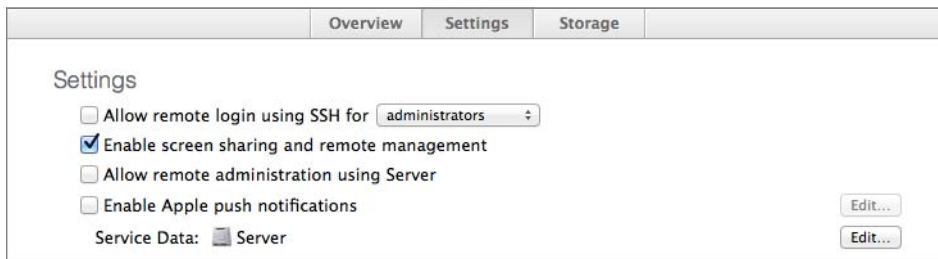
GOALS

- ▶ Understand how to use the Server app
- ▶ Use the Server app to administer a remote computer with OS X Server
- ▶ Move service data to a different volume



Unlike earlier versions of Mac OS X Server, you cannot perform a remote initial installation of OS X Server with the Server app; you have to use the Server app on the Mac on which you want to install OS X Server, at least for the initial installation and configuration.

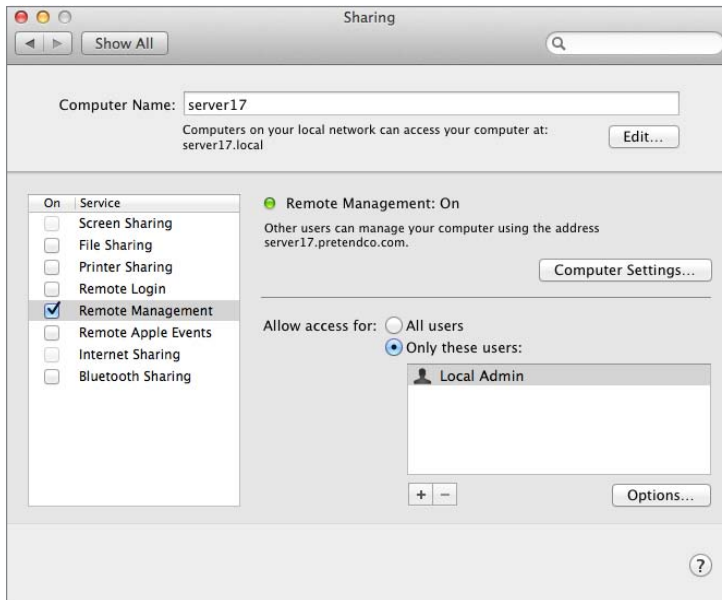
However, sometimes you need direct control of your server computer; for example, to perform a series of file or folder copy operations using the Finder. If you select the checkbox “Enable screen sharing and remote management,” you can use tools like Screen Sharing (available from the Tools menu in the Server app, and located in `/System/Library/CoreServices`) and Apple Remote Desktop (available from the Mac App Store) to take control of the Mac running OS X Server.



When you select the “Enable screen sharing and remote management” option, by default this allows access for all local accounts on the server computer that you configure as an administrator (if you have used Sharing preferences to configure specific users for specific levels of access, that configuration information will be preserved when you select or deselect the checkbox). If you want to allow access for other accounts, or specify a password for software that uses the VNC protocol, configure this with Sharing preferences on the server computer.

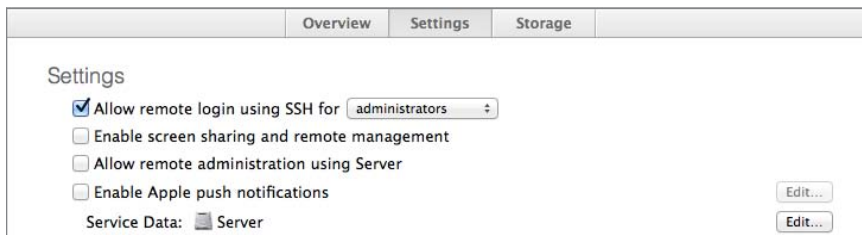
NOTE ► If you have Sharing preferences open when you use the Server app to configure remote access, you may need to quit System Preferences and reopen the Sharing pane to see the updated settings.

The following figure illustrates the checkbox in Sharing preferences that is selected when you select the checkbox for “Enable screen sharing and remote management.” Note that the checkbox for Screen Sharing is unavailable; if you click Screen Sharing, you will see the message “Screen Sharing is currently being controlled by the Remote Management service.”



MORE INFO ► If you use Sharing preferences to deselect Remote Management and select Screen Sharing, then in the Server app, the “Enable screen sharing and remote management” checkbox will display a dash (–) instead of a checkmark.

The “Allow remote login using SSH” checkbox in the Server app has the same effect as the Remote Login checkbox in Sharing preferences; selecting or deselecting either checkbox has the same effect on the checkbox in the other tool.



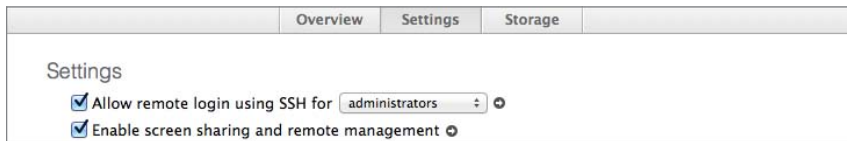
When you run the Server app on a remote administrator computer, if the “Allow remote login using SSH” option is selected, an arrow appears next to it. If you click this arrow, the Server app opens Terminal and attempts to connect to your server using the SSH protocol, with the user name of the administrator account that you provided to the Server app to connect to your remote server computer. You must provide the password to successfully open an SSH connection.

Similarly, there is also a shortcut to open a Screen Sharing session with your server. This opens the Screen Sharing application, which allows remote observation and control of the remote server computer.

Of course, the checkbox for “Allow remote administration using Server” is not available for you to configure unless you use the Server app directly at the server.

The following figure illustrates the arrows that are shortcuts to open a connection to the server.

NOTE ▶ If you upgrade from Snow Leopard (10.6.8) or any version of Lion or Mountain Lion, your Mac with OS X Mavericks inherits the Sharing settings from the system you upgraded.



Reference 4.2

Using Server Sidebar Elements

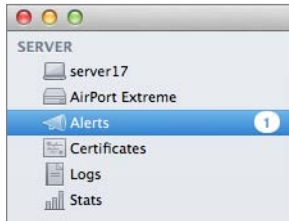
The Server app's sidebar contains four sections, which you'll use over and over throughout this guide:

- ▶ Server
- ▶ Accounts
- ▶ Services
- ▶ Advanced Services

Server

The Server section displays your server and items that are not services or accounts:

- ▶ Your server
- ▶ An AirPort device, if there is one on your subnet
- ▶ Alerts
- ▶ Certificates
- ▶ Logs
- ▶ Stats



Lesson 5, “Configuring SSL Certificates,” covers using SSL certificates to prove your server’s identity and provide encryption for the network traffic associated with its services.

Lesson 6, “Using Status and Notifications,” covers using the Alerts, Logs, and Stats panes to proactively monitor your server.

The following sections address the server and AirPort items in the Server section of the Server sidebar.

Your Server

Once you select your server in the Server app sidebar, you see three tabs:

- ▶ Overview
- ▶ Settings
- ▶ Storage

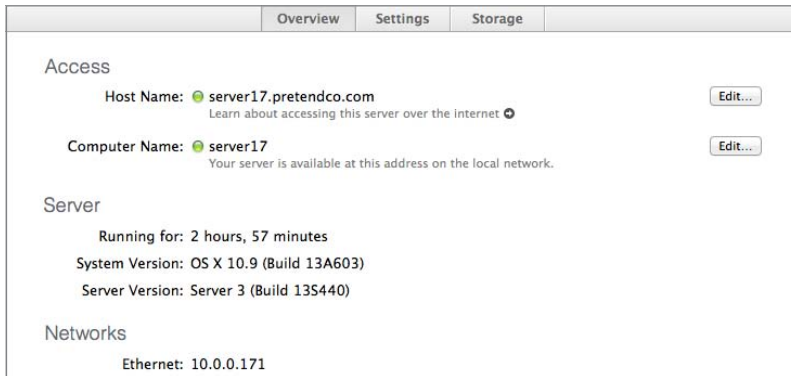


Overview Pane

The Overview pane is the first thing you see after your initial installation and configuration of OS X Server. It displays information about how clients can access services; it displays your server’s host name and computer name. Note that clients in your local subnet can also use the local hostname, which is not displayed here.

The Server section of the Overview pane displays information about how long the server computer has been running since last starting up, as well as version information for OS X and OS X Server.

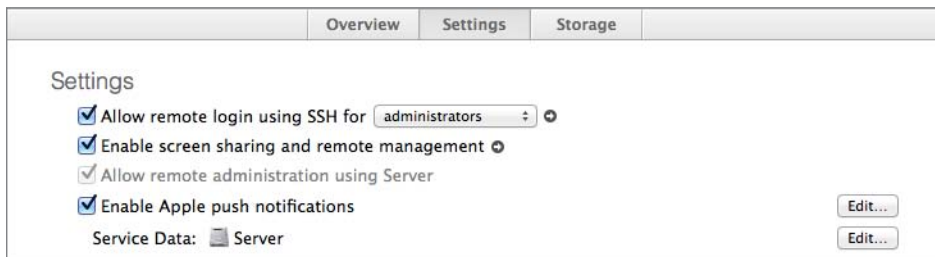
The bottom of the Overview pane contains a list of each active network interface and its IPv4 address.



Settings Pane

The Settings pane offers a number of options to configure the following:

- ▶ Remote access and administration
- ▶ Push notifications
- ▶ The location to store service data



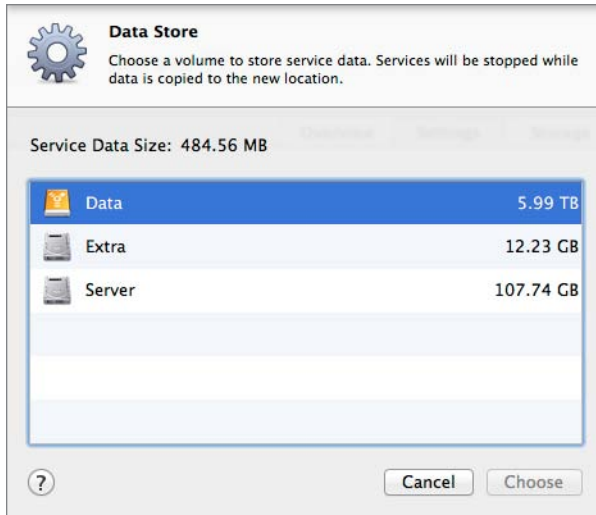
The “Enable Apple push notifications” option is covered in Lesson 6, “Using Status and Notifications.”

The last option in the Settings pane allows you to configure your server to store data for various services on a volume other than the startup volume.

Moving Service Data Location

By default, most service data is stored in `/Library/Server` on your server’s startup volume. Whether you want more space or more speed or simply want service data segregated from

your OS, you can change the service data location. When you click Edit next to the Service Data field, you have the opportunity to change where your server stores most of its service data. Here's what the pane looks like for a server with two internal volumes and one external volume:



If you use the Server app to choose a different service data volume, it does the following:

- ▶ Automatically stops the appropriate services
- ▶ Creates a new folder on the volume you choose (`/Volumes/volume_name/Library/Server`)
- ▶ Copies the existing service data to the new folder
- ▶ Configures services to use the new location
- ▶ Starts the services again

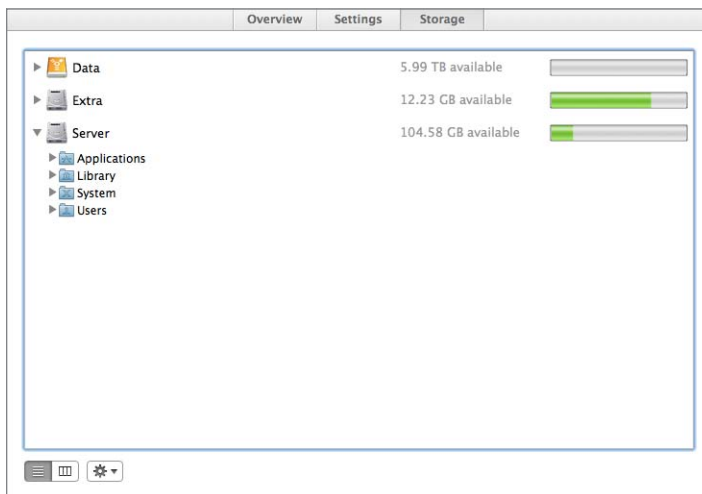
Not all the service data is moved. For example, configuration and temporary files (like the Mail spool file) remain on the startup volume, and many services, like Caching, File Sharing, FTP, NetInstall, Time Machine, Websites, and Xcode, offer separate interfaces to choose where to store data for those services.

Just as you should not change the name of your server's startup volume after you start offering services, you should not change the name of the service data storage volume after you designate it in the Server app.

MORE INFO ► If you choose to share the Websites root via FTP, it will share the `/Library/Server/Web/Data/Sites/` folder on your server’s startup volume, even if you choose a different data volume for your server’s service data.

Storage Pane

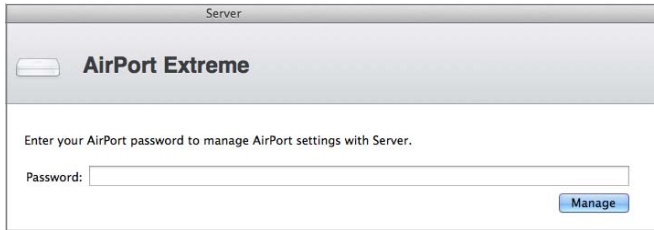
The Storage pane displays an alphabetical list of the disks connected to your server computer; you can also drill down and edit file ownership, permissions, and access control lists (ACLs). You’ll see more about this pane in Lesson 14, “Understanding File Access.”



TIP ► If you have multiple volumes attached to your server, only the startup volume has special folder icons for the Applications, Library, System, and Users folders. Other volumes have regular folder icons in the Storage pane.

AirPort

If you select an AirPort device in the Server app sidebar, you have the opportunity to provide authentication to manage the AirPort device. The AirPort pane is very useful when the AirPort device sits between your internal network and your Internet connection; the option to expose services modifies the Network Address Translation (NAT) rules on your AirPort device to allow specific network traffic from the Internet to your server.



Once you authenticate to the AirPort device, you see the option to require users to provide network user credentials before gaining access to the wireless network (using RADIUS). See Lesson 9, “Configuring Open Directory Services,” for more information about network accounts.

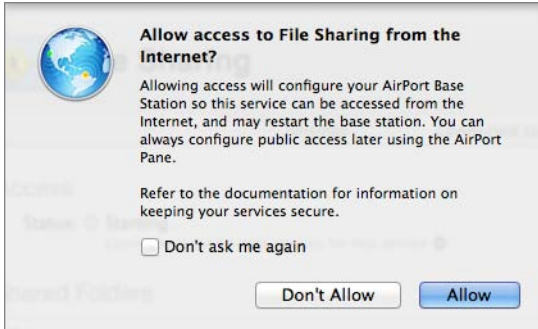


You can expose services manually by clicking Add (+) in the Airport pane, or you can have the Server app automatically expose the service when you start a service.

The following figure illustrates the menu that’s available when you click Add (+):



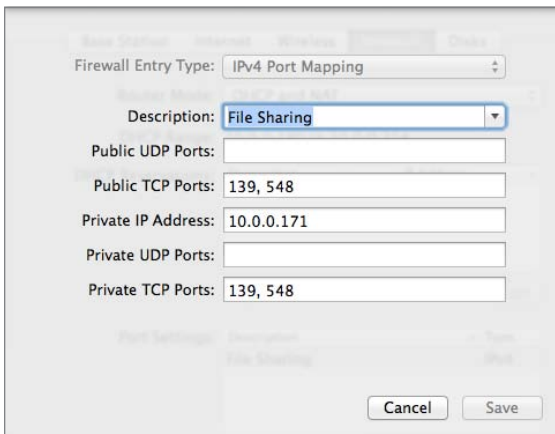
And here's what it looks like when you start some services for the first time:



The AirPort pane displays the list of services that are exposed. In the following figure, the File Sharing service is listed.

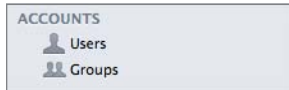


This view of exposed services simplifies some complexity. The following figure from editing the NAT rules via Airport Utility illustrates that File Sharing consists of two protocols: 139 (Windows file sharing) and 548 (AFP for Mac clients).



Accounts

The Accounts section of the Server app sidebar contains the Users and Groups panes. Lesson 8, “Managing Local Users,” and Lesson 10, “Managing Local Network Accounts,” make extensive use of the Users and Groups panes.



Services

This is a list of the services that OS X Server offers. A green status indicator appears next to the services that are currently running. Select any service to configure it.

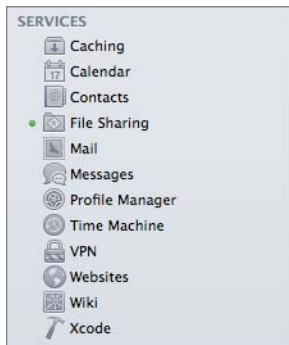


Table 4.1 describes the available services.

TABLE 4.1 Basic OS X Server Services

Service Name	Description
Caching	Automatically speed up the download of software and other assets distributed by Apple for Windows PCs, Macs, and iOS devices.
Calendar	Share calendars, book conference rooms and meeting-related resources, and coordinate events using the CalDAV protocol.
Contacts	Share and synchronize contacts information among multiple devices using the CardDAV protocol.

TABLE 4.1 Basic OS X Server Services (continued)

Service Name	Description
File Sharing	Share files among Windows PCs, Macs, and iOS devices, using standard file sharing protocols, including SMB2, AFP, and WebDAV.
Mail	Provide mail service for multiple email clients using SMTP, IMAP, and POP standards.
Messages	Securely provide the collaborative power of instant messaging, including audio and video conferencing, file transfer, and sharing presentations with the ability to archive chat transcripts.
Profile Manager	Configure and manage iOS devices and Macs over the air via configuration profiles.
Time Machine	Provide centralized backup location for Macs that use Time Machine.
VPN	Provide secure encrypted Virtual Private Network services to facilitate secure access to local resources by remote Windows PCs, Macs, and iOS devices.
Websites	Host websites based on the combination of host name, IP address, and port number.
Wiki	Enable groups to quickly collaborate and communicate using wiki-powered websites, blogs, and calendars, including QuickLook for viewing attachments and WebDAV support for iOS.
Xcode	Allow developer teams to automate the building, analyzing, testing, and archiving of Xcode projects.

Advanced Services

By default, the list of advanced services is hidden. This list includes services that are not used as often as the other services, and it includes services, like Xsan, that are a little more advanced than the regular services. To display the list of advanced services, hover your pointer above the word **Advanced**, then click **Show**. To hide the list, hover your pointer above the word **Advanced**, then click **Hide**.



TABLE 4.2 Advanced OS X Server Services

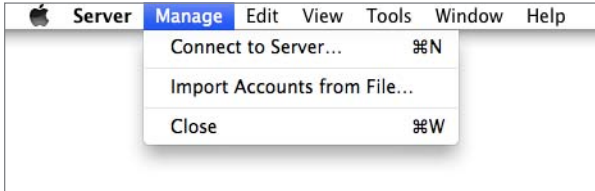
Service Name	Description
DHCP	Dynamic Host Configuration Protocol assigns networking information to networked computers and devices.
DNS	Domain Name Service provides resolution of names to IP addresses, and IP addresses to names.
FTP	File Transfer Protocol is a legacy protocol but is widely supported for uploading files to, and downloading files from, a server.
NetInstall	Allow multiple Macs to Install OS X, install software, restore disk images, or start up (boot) from a common OS configuration by starting from a network disk rather than a locally attached disk.
Open Directory	Provide a centralized location to store information about users, groups, and other resources, and integrate with existing directory services.
Software Update	Host and manage software updates for OS X clients.
Xsan	Provide a shared storage area network (SAN) using Fibre Channel storage for clients on your local network.

MORE INFO ► The “Additional Resources” Appendix, Lesson 2, “Installing OS X Server,” section contains a list of Apple Support articles that address services that have been offered in previous versions of Mac OS X Server but do not appear in this list of services.

Reference 4.3

Using the Manage Menu

The Server app's Manage menu offers two main menu items.

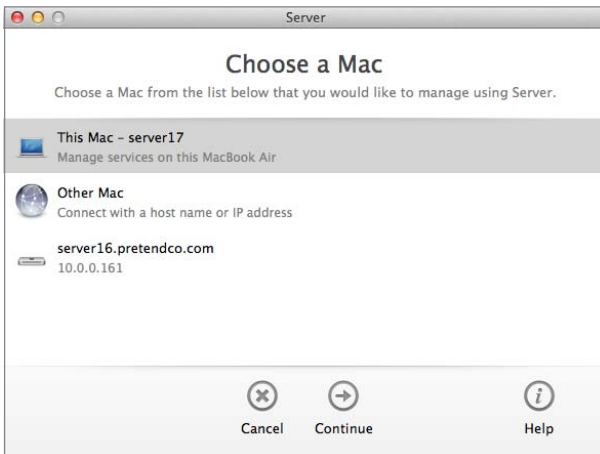


When you choose “Connect to Server” on a Mac that is not yet configured as a server, it opens a window that offers the following buttons:

- ▶ Other Mac: to open the Choose a Mac window
- ▶ Cancel: to close the window and quit the Server app
- ▶ Continue: to set up OS X Server on this Mac
- ▶ Help: to open Server Help in the Help Center

When you choose “Connect to Server” on a Mac that is already configured as a server, it opens the “Choose a Mac” window that includes the following:

- ▶ Your Mac
- ▶ Servers in your broadcast domain that allow remote administration
- ▶ “Other Mac,” which allows you to specify another Mac by its host name or IP address

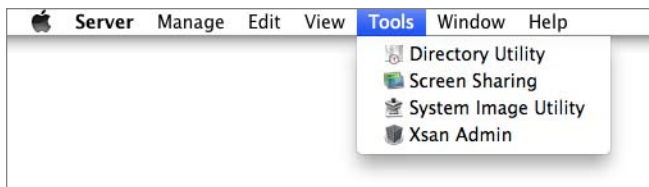


The “Import Accounts from File” menu item is covered in Lesson 8, “Managing Local Users,” and Lesson 10, “Managing Local Network Accounts.”

Reference 4.4 Using the Tools Menu

The Tools menu allows you to quickly open four administration applications:

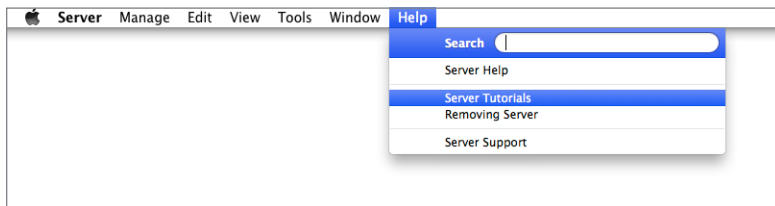
- ▶ Directory Utility
- ▶ Screen Sharing
- ▶ System Image Utility
- ▶ Xsan Admin



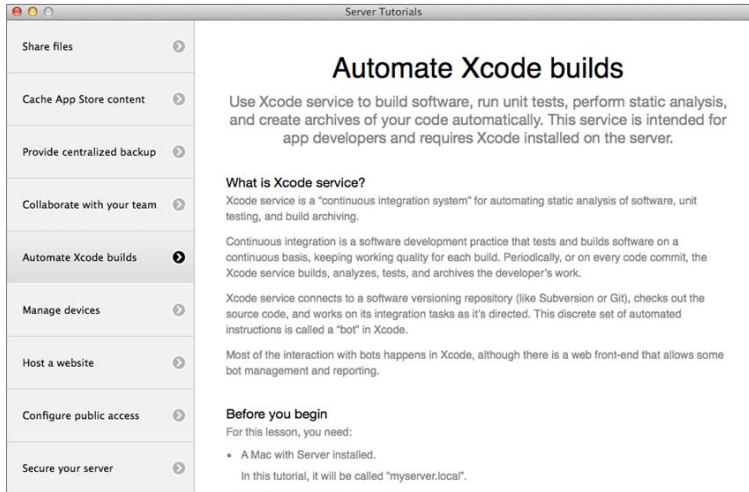
The first three applications are located in /System/Library/CoreServices on every Mac with OS X Mavericks. Xsan Admin is located inside a folder in the Server app itself.

Reference 4.5 Using Help and Server Tutorials

A new feature that arrived with OS X Server for Mavericks is Server Tutorials. Server Tutorials offers information and step-by-step instructions for several OS X Server services. From the Help menu, choose Server Tutorials.

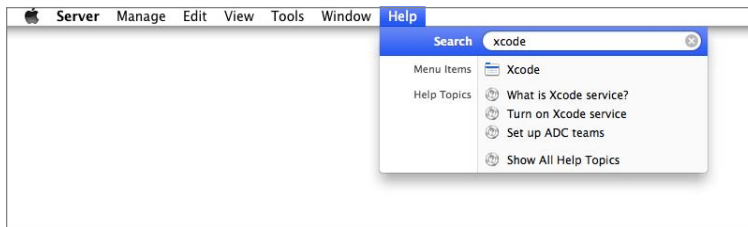


In the Server Tutorials window, select one of the topics, then scroll through the content.



You can close the Server Tutorials window when you're done using it.

Don't underestimate the power of Server Help. After you enter search terms into the Search field, Help displays a list of Server Help resources that match your query.



Once you choose a topic from the list of results, the Help Center window stays in the foreground until you close it.

Reference 4.6 Troubleshooting

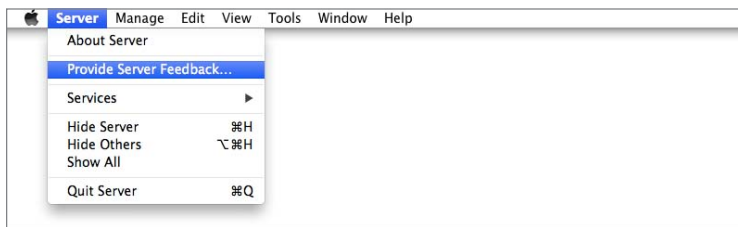
If you attempt to administer to a remote server via its host name, but your administrator computer does not have DNS records available for that remote server, you will not be able to authenticate to that server with the Server app. A simple workaround is to use its local hostname; for example, server17.local.

On your server, do not delete the Server app or move the Server app from the Applications folder on your startup volume. If you do, you will see a dialog that all your services

have stopped; when you reinstall OS X Server (or just move the Server app back into the Applications folder of the server’s startup volume), you will have the opportunity to reenter your Apple ID to renew your Apple Push Notification service certificates, and then your services will start again.

It is recommended that you do not change the name of any volume associated with your server after you’ve configured your Mac as a server.

You can provide feedback about OS X Server by choosing Server > Provide Server Feedback.



Exercise 4.1 Enable Screen Sharing And Remote Management

In Exercise 2.2, you confirmed that your server allows remote administration using the Server app. Now you will enable screen sharing and remote management as well. If you had a copy of Apple Remote Desktop, performing this action would allow you to use it to control your server. In this exercise you will use Screen Sharing to control your server.

Open a connection to your server with the Server app if you don’t already have one open.

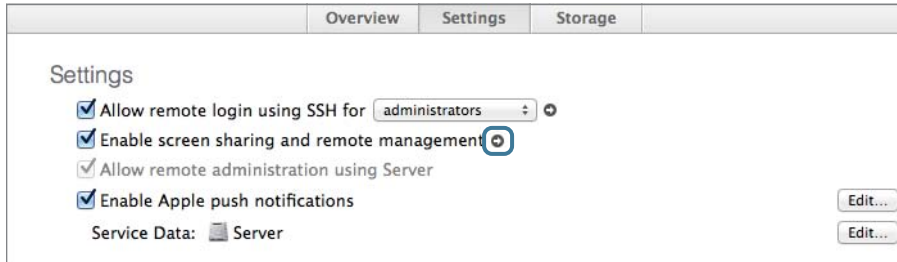
Perform these exercises on your administrator computer. If you do not already have a connection to your server computer with Server app on your administrator computer, then connect to it with the following steps: Open the Server app on your administrator computer, choose Manage > Connect to Server, click Other Mac, select your server, click Continue, provide administrator credentials (Administrator Name **ladmin** and Administrator Password **ladminpw**), deselect the “Remember this password” checkbox, and then click Connect.

Enable screen sharing and remote administration.

- 1 If your server isn’t already selected in the Server app sidebar, select your server now.
- 2 Click the Settings tab.
- 3 Confirm that the “Enable screen sharing and remote management” checkbox is selected.

Open a Screen Sharing connection.

- 1 Click the arrow next to the “Enable screen sharing and remote management” checkbox.



- 2 Enter local administrator credentials for your server computer.

NOTE ▶ If you provided your Apple ID when setting up OS X, you will see “Connect as a registered user” and “Using an Apple ID” as two different options in the window. If this is the case, select “Connect as a registered user” and enter credentials for the local administrator on your server.

NOTE ▶ The Name field automatically contains the value of the Full Name attribute of the currently logged-in user on your administrator computer.

- 3 Click Connect.
- 4 If necessary, provide local administrator credentials to unlock the server’s screen.
- 5 For the purposes of these exercises, click Cancel to close the window.
- 6 In the Screen Sharing window, click the close button.

Because you selected the checkbox for “Enable screen sharing and remote management,” you were able to take control of your remote server computer using Screen Sharing, right from the Server app’s shortcut.

Exercise 4.2

Inspect the Service Data Volume

▶ Prerequisite

- ▶ Exercise 4.1, “Enable Screen Sharing and Remote Management”

In this exercise, you will go through the procedure to relocate your service data volume, but you will not actually change it.

Moving the Service Data to a Different Volume

Using the Server app, you can choose a different volume for service data. It’s a good idea to perform this task as early as possible, so that you don’t have to wait with services disabled while a large amount of data is moved to the new volume.

- 1 On your administrator computer, if you are not already connected to your server, open the Server app, connect to your server, and authenticate as a local administrator.
- 2 In the Server app sidebar, select your server and click Settings.
- 3 Next to the Service Data field, click Edit.
- 4 Inspect the current Service Data Size, as well as how much space is available on any listed volume. If you have another volume available on which to store the service data, you could select that volume and click Choose.

Because it is possible that you do not have any extra volumes in your test environment, the rest of the exercises for this guide are written with the assumption that the service data is stored on the startup volume.

- 5 For the purposes of these exercises, click Cancel to close the window.

Even though you went through the procedure to relocate your service data volume, you didn’t actually change it in this exercise. You can use this procedure in a production environment with an additional storage volume.

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Index

A

- AATC (Apple Authorized Training Center), 6
- AATCE (Apple Authorized Training Center for Education), 6
- About This Mac, 36–37
- access control
 - configure, 384–400
 - file access, 384–400
 - for website, 511–513
 - wikis, 541
- access control entries. *see* ACEs (access control entries)
- access control lists. *see* ACLs (access control lists)
- Account Type pop-up menu, Messages service, 577
- accounts
 - Advanced Options for user, 183–184
 - Calendar service, 560–564
 - configure Messages, 569, 576–583
 - local network. *see* local network accounts
 - local users. *see* local user accounts
 - management of. *see* Profile Manager, account management
 - Open Directory services. *see* Open Directory services
- Accounts section, Server app sidebar, 101
- ACEs (access control entries)
 - ACLs composed of one or more, 369–370
 - configure access control, 387
 - configure access with File Sharing pane, 363
 - configure complex permissions, 374–375
 - configure group shared folder, 345
 - inheritance, 376–378
 - in Storage Pane’s permission dialog, 367–368
- ACLs (access control lists)
 - add to POSIX permissions, 368–369
 - configure access control, 384–400
 - configure complex permissions, 374–375
 - configure with File Sharing pane, 371–372
 - configure with Storage pane, 372–374
 - features common to
 - POSIX and, 375–382
 - file sharing service
 - maintenance tasks, 336
 - file system, 371
 - inheritance, 376–378
 - portability, 378
 - propagating permissions, 379
 - rules of precedence, 382–383
 - setting on folders, 335
 - sorting canonically, 378
 - testing, 335
 - understanding, 369–370
- ACSP (Apple Certified Support Professional) certification, 11
- ACTC (Apple Certified Technical Coordinator 10.9)
 - certification, 10–11
- Action (gear icon) pop-up menu, 41–42
- Activity Monitor, troubleshoot
 - Caching service, 439–440
- AD (Active Directory)
 - bind to domain in, 240, 242
 - externally provided DNS in, 74
 - WebDAV service for, 334
- Add Machine Record, DNS, 82, 85–86
- Add Nameserver Record, DNS, 84–87
- administration rights, wikis, 541
- administrator account
 - allow remote access, 93
 - configuration options, 32, 56
 - configure local, 185
 - configure server to send alerts to, 154
 - create, 33–34
 - create local, 57–58
 - create new in System Preferences, 35, 58–59
 - create user template with, 202
 - definition of, 185
 - enable user to administer server, 185–186
 - NetBoot image creation
 - with, 420
 - passwords for, 257
 - removing administrator status
 - for user, 186
 - Server app usable only in, 205
- administrator computer, configuring
 - App Store software update, 61
 - confirm DNS records, 64–65
 - download student materials, 66–68
 - with existing OS X system, 58–59
 - install Server app, 68
 - networking, 62–64
 - overview of, 55–56
 - prerequisites, 55
 - run Software Update, 66
 - set computer name/turn on remote management, 60–61
 - set energy saver preferences, 61
 - with Setup Assistant, 56–58
 - use Server app, 68–70
- administrator computer, requirements for this guide, 7
- Advanced Options, user accounts, 183–184
- advanced OS X Server services, 102–103
- AFP (Apple Filing Protocol)
 - guest access checkbox and, 343
 - understanding, 331, 333–334
 - view error log, 337
 - view users, 345–346
 - VPN using, 467
- AirDrop, 41, 62, 67, 236
- AirPort, Server app sidebar, 98–100
- alerts
 - host name change, 54
 - OS X Server, 153–155

- SSL certificate expiration date, 126–127
 - understanding, 160–163
- Alerts pane, Server app, 154–155
- aliases, 183–184, 199
- “Allow remote login using SSH”
 - checkbox, Server app, 93–94
- Allow rules, 369–371, 374–375
- Always Trust option, trusted
 - certificates, 133–136
- anonymous binding, with OS X
 - clients, 241
- Apache, 499–500
- APN (Apple Push Notification)
 - service
 - automatic push reliant on, 296–297
 - enable push notifications, 154
 - Profile Manager web app for, 318–322
 - requirements for this guide, 7
- App Store software updates
 - configure administrator
 - computer for, 61
 - configure OS X, 41
 - OS X Server, 29–30
- Apple AirPort Extreme, requirements
 - for this guide, 7
- Apple Authorized Training Center (AATC), 6
- Apple Authorized Training Center for Education (AATCE), 6
- Apple Certified Support Professional (ACSP) certification, 11
- Apple Certified Technical Coordinator 10.9 (ACTC)
 - certification, 10–11
- Apple ID
 - configure existing OS X
 - system for administrator
 - computer, 59
 - configure existing OS X system
 - for server computer, 36
 - configure OS X before OS X
 - Server installation, 33–34
 - configure OS X on administrator
 - computer, 57–58
 - configure Profile Manager, 282, 287–288
 - install Server app, 68
 - mandatory requirements, 7
 - obtaining for Profile Manager, 282–283
 - for push notifications, 107, 125, 154, 159
 - Apple Partition Map, 18
 - Apple Pro Training Series: OS X Support Essentials 10.9* (Peachpit Press), 4, 11
 - Apple Push Notification. *see* APN (Apple Push Notification)
 - service
 - Apple Remote Desktop
 - remote access configuration, 92
 - remote administration of
 - System Preferences, 179
 - remote management, 39
 - Apple Support articles, in this guide, 6
 - Applications folder, 27, 47
 - apps, manage in Profile Manager, 293–295
 - archives
 - Messages service, 571–572, 575–576
 - Open Directory, 236–237
 - SSL certificate, 126, 142–143
 - ASR multicast streams, 411
 - attachments, uploading to wikis, 549–550
 - attributes
 - editing user, 198–199
 - local network account user, 252
 - user account advanced options, 183–184
 - authenticated binding, 241
 - authentication
 - AirPort device, 98–99
 - FTP access, 334
 - methods, 255–259
 - multiple user accounts on
 - different computers, 225
 - Open Directory. *see* Open Directory services
 - overview of, 177
 - remote server via its host name, 106–107
 - with single sign-on and
 - Kerberos, 259–264
 - troubleshoot Calendar
 - service, 555
 - troubleshoot Contacts
 - service, 588
 - troubleshoot Messages
 - service, 573
 - troubleshoot Wiki service, 542
 - understanding, 178
 - using, 178–179
 - VPN service, 467, 470
 - WebDAV service for AD
 - accounts, 334
 - authorization
 - access to services, 193–194, 218–219
 - file sharing services, 220–222, 330
 - individual files and folders, 330
 - overview of, 177–178
 - using, 179
 - automatic approval, Calendar
 - delegates, 554
 - automatic push, 296–297, 318–319
 - automatically configured DNS, 73
 - Automator Library actions, System
 - Image Utility, 418
 - availability, OS X Server
 - requirements, 17

B

 - backup. *see also* Time Machine
 - network backup
 - diversity, 166–167
 - media, 166
 - techniques, 165–166
 - with Time Machine, 168–174
 - BDSP (Boot Service Discovery Protocol), NetInstall client, 407
 - binding OS X
 - to another Open Directory
 - server, 233, 240–242
 - to Open Directory service, 226, 242
 - overview of, 240
 - blacklists, incoming mail, 527, 532–533
 - blogs, 541–542, 550–551
 - Bonjour, 22–23
 - Boot Service Discovery Protocol (BDSP), NetInstall client, 407
 - BootP (Bootstrap Protocol) network
 - protocol, 484, 491–492
 - broadcasts, DHCP, 482
 - buddies, adding Jabber, 579–581
 - Buddies window, Messages service, 577–578

C

 - CA (certification authority)
 - archive certificates, 126
 - certificate chain, 129–133
 - certificate signed by widely
 - trusted, 115
 - certificates signed by, 112–113
 - import signed certificate, 122, 140–142
 - obtain trusted certificate, 119–122
 - reimport exported certificate
 - signed by, 145
 - secure website using SSL, 515–516
 - troubleshoot SSL, 136–137
 - cache, DNS
 - cached answers, 72
 - resetting, 244
 - Caching, Bytes Served graph, 156–157

- Caching Server 2, 431
 - Caching service
 - configure/maintain, 433–436
 - overview of, 431
 - Software Update vs., 436–438
 - troubleshoot, 438–440
 - understanding, 431–433
 - CalDAV (Calendar Server Extensions for WebDAV) protocol, 553, 561
 - Calendar feature, wiki, 542
 - Calendar service
 - access as user, 560–567
 - add resources/locations with Server app, 558–560
 - configure/starting, 555–558
 - data locations, 553
 - troubleshoot, 555
 - using, 553–554
 - CardDAV, 587, 590, 592
 - CDP (continuous data protection), 166
 - Certificate Assistant, 136
 - certificate chain, 113, 129–133
 - certificates
 - Server app, 69–70
 - SSL. *see* SSL certificates
 - User Profile Portal, 307
 - Certificates pane, 123, 127, 137–140
 - Certification, Apple Training and, 10–11
 - certification authority. *see* CA (certification authority)
 - Change Host Name Assistant, 23–26
 - Change Password, 275–277
 - Chat logs, 584–586
 - chats. *see* Messages service
 - “Choose a Mac menu,” Server app, 104
 - ClamAV virus scanning package, 526–527
 - classrooms, NetInstall service for, 405
 - Client Addresses field, VPN, 470–471
 - client computer
 - bind OS X to Open Directory, 241
 - Open Directory locales and, 231
 - Clients pane, DHCP service, 487, 489
 - cloud backups, 167
 - cloud-based storage, 166
 - collaborative services
 - Contacts, 587–592
 - Mail. *see* Mail service
 - Messages. *see* Messages service
 - Wiki. *see* Wiki service
 - computational clusters, NetInstall service for, 405
 - computer labs, NetInstall service for, 405
 - computer name
 - administrator computer, 60
 - change, 24–26
 - change host name of server, 50
 - set with student number, 38–39
 - understanding, 21–22
 - computer record, 241
 - computer sleep slider, Energy Saver, 40
 - computers, configure for Software Update, 445–449
 - Configuration phase, 13
 - Configuration profile
 - configure VPN, 470, 474–476
 - defined, 282
 - save, 472–473
 - Configure Device Management pane, Profile Manager, 284
 - Confirm Settings pane, Profile Manager, 247, 286
 - Connect to Server, Server app
 - global password policy, 275
 - on Mac not yet configured as server, 104
 - use different account, 200–201
 - use Server app as nonadministrator user, 204
 - user template, 202
 - Connected Users tab, Server app, 337, 345–346
 - Console app
 - logs, 156
 - troubleshoot directory services, 244
 - troubleshoot import problems with accounts, 217–218
 - view file sharing service logs, 337
 - view import log for network users, 268
 - Contacts service
 - configure OS X to use, 589–592
 - configure with Server app, 588–589
 - troubleshoot, 588
 - understanding, 587
 - continuous backup, 166
 - continuous data protection (CDP), 166
 - corporate workstations, NetInstall service for, 405
 - Create a Certificate Identity command, 119, 123
 - credentials
 - admin group, 186
 - AirPort device, 99
 - authenticated binding, 241
 - authentication, 177
 - configure server as Open Directory replica, 238
 - import groups, 212
 - import users from delimited text file, 207
 - import users from exported formatted file, 209
 - newly imported users
 - connecting to File Sharing, 271–272
 - screen sharing and remote management, 108
 - User Profile Portal, 305–315
 - CSR (certificate signing request)
 - create, 137–140
 - generated when renewing signed certificate, 127
 - import signed certificate, 122, 141–142
 - for trusted certificate, 119–122
 - use certificate signed by widely trusted CA, 115
 - CSV (comma-separated value) file
 - import devices into Profile Manager using, 293
 - import lists of devices into Profile Manager via, 323
- ## D
- data loss, exercise sections may cause, 7
 - Default Locale, Open Directory, 231
 - default share points, 339
 - delegates, Calendar service, 554, 562
 - delete
 - global password policies, 278
 - local user/group accounts, 223–224
 - wikis, 552
 - delimited text file, import user accounts, 206–208
 - delivery
 - of OS X Server alerts, 154
 - of profiles, 296–297
 - demilitarized zone (DMZ), hosting websites, 499
 - Deny rules, 369–371, 375, 378
 - deployment software tools
 - NetInstall. *see* NetInstall service
 - Software Update. *see* SUS (Software Update service)
 - destination, Time Machine
 - back up OS X Server, 169–172
 - network backup, 454–459
 - restore from, 463–465
 - device accounts, 292, 322–323
 - device group accounts, 292–293, 323–324
 - device management. *see* Profile Manager; Profile Manager, account management
 - Devices pane, User Profile Portal, 309–315

- DHCP (Dynamic Host Configuration Protocol)
 - clean up, 497
 - configure service, 485–490, 492–497
 - how it works, 482
 - leases, 483–484
 - NetInstall client startup process, 407
 - network requirements for this guide, 9
 - networks, 482–483
 - overview of, 481
 - static and dynamic assignments, 484
 - troubleshoot, 490–492
 - troubleshoot NetInstall, 413
 - DHCP DISCOVER, DHCP logs, 491–492
 - DHCP REQUEST, DHCP logs, 491–492
 - digital identity (identity)
 - defined, 112
 - trusted certificates and, 112–114, 120, 133–136
 - digital signatures, 112–113
 - directory administrator (diradmin)
 - configure server as Open Directory master, 234–236
 - configure server as Open Directory replica, 238
 - credentials for authenticated binding, 241
 - import groups into server's shared directory node, 269–270
 - import local network accounts, 254
 - Directory Administrator pane, Profile Manager, 245–246, 285
 - directory services. *see also* Open Directory services
 - access to services for accounts from other, 253
 - configure server for another Open Directory server, 233, 240–242
 - overview of, 225–226
 - troubleshoot, 244
 - Directory Utility, 242, 244
 - disable user accounts, 256–257
 - disable websites, 500, 519
 - disk images
 - configure NetInstall, 427–428
 - source for create NetBoot images, 410
 - Time Machine and, 454
 - disk space
 - create multiple partitions on single disk, 19–20
 - display available in Server app, 161
 - OS X Server requirements, 16, 37
 - troubleshoot NetInstall, 414
 - troubleshoot Software Update, 442
 - Disk Utility, 18, 410
 - Diskless checkbox, NetBoot image, 412
 - disks
 - as backup media, 166
 - install multiple, 20
 - OS X Server installation, 17–20
 - Time Machine backups, 169–171
 - view in Storage pane of Server app, 98
 - display sleep slider, Energy Saver, 40
 - DMZ (demilitarized zone), hosting websites, 499
 - DNS (Domain Name System)
 - Change Host Name Assistant, 25–26
 - configure administrator computer, 63–64
 - configure DHCP service, 487
 - configure Mail, 526
 - configure network interface, 42, 493–495
 - confirm records, 64–65
 - host name, 23–24
 - hosting requirements, 73–75
 - hosting websites, 499
 - initial installation, 49–54
 - internal, external and split, 74–75
 - local hostname following rules for, 22–23
 - for Mail service, 526
 - set up in OS X Server, 75–76
 - troubleshoot Calendar service, 555
 - troubleshoot Contacts service, 588
 - troubleshoot in OS X Server, 76–77
 - troubleshoot Kerberos, 264
 - troubleshoot Mail services, 528
 - troubleshoot Messages service, 573
 - troubleshoot on OS X Server, 76–77
 - understanding, 71–73
 - verify Web service uses new certificate, 147–148
 - DNS (Domain Name System) service
 - collect configuration data, 77–78
 - create additional zone, 84–87
 - forwarding servers, 78–79
 - hosts, 80–84
 - lookup restrictions, 79–80
 - prerequisites, 77
 - remove redundant zone/confirm records, 87–90
 - DNS hosts
 - configure, 80–84
 - create additional zone, 84–87
 - DNS records
 - configure DNS, 75, 81–82
 - configure VPN, 469
 - confirm, 245
 - create additional zone, 84–87
 - create new website, 509–510
 - defined, 73
 - reset cache, 244
 - SoA contained in, 75
 - troubleshoot DNS service, 76
 - understanding, 72
 - VPN advanced configuration, 471–472
 - DNS server
 - configure, 21
 - configure DNS, 75
 - defined, 72
 - troubleshoot DNS service, 75–76
 - understanding, 72
 - Dock preferences, Profile Manager web app, 317–321
 - domain names
 - collect configuration data, 77–78
 - configure DNS, 74–75
 - create new website, 510
 - enable Mail service, 529
 - manage websites, 500–501
 - required for this guide, 9
 - Dovecot email package, Mail service, 523
 - download
 - OS X Server, 26
 - OS X Server updates, 29–30
 - student materials, 44–46
 - dynamic addresses, DHCP, 484, 490
- ## E
- edit
 - global password policy, 258, 273–275
 - share point configuration, 342–343
 - subnet, configure DHCP service, 485–488

- user, 198–199
 - wiki, 549–552
 - Edit Apps, Action pop-up menu, 294–295
 - email addresses. *see also* Mail service
 - configure with Server App, 159–160
 - configure/starting Calendar service, 556
 - deliver profiles to users, 296
 - trigger alerts, 163
 - email messages
 - enable push
 - notifications/alerts, 154
 - in Mail service, 524–525
 - email packages, Mail service, 523
 - email services, enabling for user, 531
 - emergency boot disk, NetInstall service, 405
 - enable screen sharing and remote management, Server app, 107–108
 - encryption
 - using SSL for web traffic, 513–516
 - VPN. *see* VPN (virtual private network)
 - Energy Saver
 - for administrator computer, 61
 - configure OS X, 40–41
 - ensure availability, 17
 - enrollment of device, troubleshoot, 304
 - enrollment profiles, 282
 - Enterprise apps, 293–295
 - Ethernet (IPv4)
 - Caching service
 - requirements, 435
 - configure network interface, 42, 493
 - requirements for this
 - guide, 7–8
 - events
 - Calendar service, 553–554, 564–567
 - DHCP, 491–492
 - Everyone Else permission, 364, 397
 - exercise sections, in this guide, 5–10
 - expiration date, SSL certificates
 - overview of, 111
 - renewals, 126–127
 - troubleshoot, 137
 - export certificate, and private key, 126
 - exported formatted file, import users from, 208–210
 - external disks, as Time Machine destinations, 169
 - external DNS, 74–75
 - external volumes, 17
- F**
- federation, Messages, 572, 583–584
 - file access
 - access control lists, 369–379
 - clean up, 400
 - configure access control, 384–400
 - configure complex permissions
 - for ACEs, 374–375
 - configure with File Sharing pane, 362–366
 - configure with Storage pane, 366–368
 - features common to POSIX and ACLs, 375–382
 - overview of, 361
 - POSIX and ACL rules of precedence, 382–383
 - POSIX ownership/permissions, 368–369
 - File Sharing pane, Server app
 - configure access to share point, 386
 - configure access to shared folder, 362–366
 - configure ACLs, 371–372
 - Everyone Else permission
 - in, 397
 - monitor Time Machine backups, 462–463
 - permissions in Storage pane vs., 399–400
 - propagating permissions, 379
 - service maintenance tasks, 336
 - updating ACL, 394
 - File Sharing services
 - after confirming global password policy, 277
 - challenges of, 329–331
 - clean up, 358–359
 - configure group folder, 344–345
 - Connected Users pane, 345–346
 - create new location for shared folders, 352–354
 - create new shared folders, 354–356
 - create shared folder for group, 356–358
 - exploring, 349–351
 - file sharing protocols, 331–334
 - FTP service, 347–349
 - manage access to, 195, 219–222
 - overview of, 329
 - plan, 334–337
 - required for Time Machine backups, 453
 - stopping, 224
 - stopping and starting, 351–352
 - troubleshoot, 346–347, 359–360
 - turn on/verify authorization, 220–222
 - verify NetInstall configuration, 423–424
 - verify newly imported users
 - connecting to, 271–272
 - File Sharing services, share points
 - add and remove, 339–342
 - available for home directories, 343–344
 - configure individual, 342–343
 - default, 339
 - explore File Sharing, 338–339
 - overview of, 337–338
 - File Transfer Protocol (FTP), 331, 347–349
 - files
 - configure access with Storage pane, 362, 366–368, 372–374
 - create groups to manage
 - access to, 195
 - create local users for
 - access to, 185
 - FileVault 2 full disk encryption, 20
 - filters
 - keywords and notes as, 182
 - NetInstall client, 425–427
 - troubleshoot NetInstall server, 414
 - Finder
 - change startup volume name, 38
 - configure access control, 387–391
 - confirm global password policy, 275
 - confirm resources for editing in shared folder, 357–358
 - download student materials, 44–45
 - indicate no write access to shared folder, 356
 - start File Sharing service, 271
 - start/stop File Sharing service, 351–352
 - firewall
 - configure for VPN, 468
 - troubleshoot NetInstall, 414
 - VPN vs., 467
 - FireWire, NetBoot image creation, 417
 - folders
 - configure access with Storage pane, 362, 366–368
 - configure ACLs with Storage pane, 372–374

- verify permissions for web services, 511
 - formatting disks, OS X Server
 - installation, 17–18
 - forwarding servers, DNS, 72–73, 77–79
 - FQDN (fully qualified domain name)
 - enable web services, 510
 - as host name, 23
 - manage websites, 501
 - FTP (File Transfer Protocol), 331, 347–349
 - full file-level copy backup, 165
 - full image backups, 165
 - fully qualified domain name. *see* FQDN (fully qualified domain name)
- G**
- Get a Trusted Certificate, 119, 138
 - Get Info command, 511
 - GIDs (group IDs), POSIX, 379
 - global password policies
 - clean up, 278
 - configure, 273–275
 - confirming, 275–277
 - overview of, 257–259
 - globally unique ID (GUID), 369, 380–381
 - graphs
 - Server App displaying available, 161
 - Stats pane OS X Server, 156–157
 - greylists, for incoming mail, 527, 532–533
 - group membership, and ACLs, 381
 - groups
 - access control configuration, 385–400
 - ACLs and POSIX for multiple, 381
 - add groups to, 215–216
 - add users to, 213–214
 - Advanced Options for user accounts, 183–184
 - create, 210–211
 - create/configure local, 186–189, 210–216
 - defined, 292
 - File Sharing, 355
 - import, 211–212, 269–270
 - nested, 381–382
 - Open Directory for large, 233
 - Profile Manager preferences for user, 298–302
 - shared folder, 356–358
 - shared folder configuration, 344–345
 - test, 335
 - troubleshoot import, 195–196
 - user preferences in, 292
 - view hidden system, 195
 - wiki, 543–544
 - Workgroup, 248–249
 - guest access
 - checkbox, 343
 - configure access control, 387–388
 - enable for share point, 365–366
 - GUID (globally unique ID), 369, 380–381
 - GUID Partition Table, 18
- H**
- hardware requirements
 - NetInstall, 405–406
 - OS X Server, 14–17
 - header line
 - import groups, 211
 - import list of users with Server app, 190–192
 - import local network accounts, 254
 - import users, 207–209
 - with Workgroup Manager for import file, 192
 - Help menu, 105–106, 433
 - Hide System Accounts, 224
 - home directories, file sharing services over, 343–344
 - Home Folder pop-up menu, 344
 - home folders, and NetBoot, 408
 - host, DHCP, 482
 - host name
 - bind server to another directory, 240
 - configure VPN, 469
 - confirm DNS records, 245
 - create CSR, 138
 - host names
 - change, 24–26, 49–54
 - configure DNS, 74–75
 - create additional zone, 85–86
 - import signed certificate, 122–124
 - obtain trusted certificate, 120
 - OS X DNS requirements, 73–75
 - understand, 23–24
 - view alert for changed, 54
 - hosting
 - Mail services, 522–523
 - websites. *see* websites, hosting
 - HTTP (Hypertext Transfer Protocol), 407, 553
- I**
- iChat. *see* Messages service
 - identity, and trusted certificates, 112–114, 120, 133–136
 - image ID, NetInstall, 408
 - images, NetInstall
 - configure NetInstall server, 422–425
 - create with System Image Utility, 408–412, 414–416
 - filter NetInstall clients, 425–427
 - types of, 406
 - IMAP (Internet Message Access Protocol), Mail service, 525
 - iMessage Setup dialog, 576
 - Import a Certificate Identity, 119, 144–145
 - Import Users pane, 190
 - importing
 - certificate and its private key, 126
 - groups, 211–212
 - lists of devices into Profile Manager, 293
 - local network accounts, 254–255
 - local user accounts, 205–210
 - network users, 265–272
 - reimport exported certificate, 144–145
 - signed certificate, 122, 140–142
 - troubleshoot accounts, 217–218
 - troubleshoot user/group, 195
 - user accounts, 190–192
 - incoming mail
 - blacklists, greylists, and junk filtering, 527, 532–533
 - configure/start Calendar service, 557
 - enable, 533–537
 - virus scanning, 526–527, 531–532
 - incremental backups, 165
 - inheritance, 370, 372–378
 - “Install OS X Mavericks” application, NetInstall image, 410, 414–416
 - installing OS X Server
 - configure administrator computer. *see* administrator computer, configuring
 - configure OS X before. *see* OS X, configure before installing OS X Server
 - evaluating requirements, 13–17
 - initial installation of. *see* OS X Server, initial installation of

- overview of, 13, 27–28
 - preparing for, 17–26
 - troubleshoot, 30–31
 - updating, 29–30
 - upgrade or migration of, 28–29
 - intermediate CAs
 - Apple trusted, 113–114
 - certificate chain, 131–133
 - defined, 112–113
 - import signed certificate, 141–142
 - troubleshoot SSL certificates, 137
 - internal volumes, as Time Machine destinations, 169
 - Internet Accounts preferences, Mail, 533–537
 - Internet connection, requirements for this guide, 7
 - Internet Message Access Protocol (IMAP), 525
 - introduction to this guide
 - about, 3–4
 - Apple Training and Certification program, 10–11
 - exercise setup, 6–10
 - learning methodology, 4–5
 - lesson structure, 5–6
 - iOS devices
 - Caching Server 2 for, 431
 - Calendar for, 554
 - configuration profile for VPN, 473
 - troubleshoot Caching service, 438
 - trusted certificates on, 135–136
 - IPv4 addresses
 - Caching service requirements, 432
 - collect configuration data, 77–78
 - configure DHCP, 482–484, 489
 - configure DNS, 71–73, 75, 78–79, 82
 - configure lookup restrictions, 79–80
 - configure server as Open Directory master, 235–236
 - configure VPN service, 470–471, 475
 - confirm DNS records, 245
 - create additional zone, 85–86
 - create new website, 506–510
 - infrastructure required for this guide, 9
 - managing websites, 500–501
 - NetInstall client startup process, 407
 - troubleshoot Caching service, 438
 - troubleshoot DHCP logs, 492
 - isolated network, requirements for this guide, 7
 - iTunes, troubleshoot Caching service, 438
- J**
- Jabber, 569, 576–581
 - journaled formats, 18
 - junk filtering, incoming mail, 527, 532–533
- K**
- KDC (Key Distribution Center), Kerberos, 259–261
 - Kerberized services, 260–261, 263
 - Kerberos
 - basics, 259–261
 - global password policies in, 257–259
 - Open Directory authentication, 227, 229, 255
 - principals, 260–261
 - tickets, 261–264
 - troubleshoot, 264–265
 - Keychain Access
 - archive certificates, 142–143
 - configure server with SSL certificates, 69–70
 - configure trusted certificates, 134–135
 - export certificate and its private key, 126
 - inspect certificate, 124–126
 - SSL certificate signed by trial CA, 129–130
 - view trusted root CAs, 113
 - Keynote on iOS, 332
 - keys, PKI, 112
 - keywords, search/sort accounts, 182
 - kiosks, NetInstall service for, 405
 - klist command, Kerberos, 264
- L**
- L2TP (Layer 2 Tunneling Protocol), VPN, 467–468, 469
 - Launchpad, 27, 47–48
 - Layer 2 Tunneling Protocol (L2TP), VPN, 467–468, 469
 - layering, 302–303
 - LDAP, 228–229, 241, 587
 - learning methodology, in this guide, 4–5
 - lease, DHCP, 483, 494
 - legacy clients, NFS security issues, 333
 - lesson structure, in this guide, 5–6
 - libraries, NetInstall service for, 405
 - license agreements, 27, 33, 48, 57, 418
 - Lion, upgrade from, 94
 - local accounts, local network accounts vs., 228
 - Local Admin account, 34–35, 59, 578
 - local backups, 166–167
 - local groups, create/configure, 186–189, 210–216
 - local hostname, 22–23, 24–26, 106–107
 - local network accounts
 - authentication configuration, 255–259
 - create/import, 265–272
 - import, 254–255
 - manage with Server app, 251–255
 - OS X Server for Mountain Lion using, 228
 - overview of, 251
 - password policy configuration, 273–278
 - troubleshoot, 264
 - using single sign-on and Kerberos, 259–264
 - local user accounts
 - authentication and authorization, 178–179
 - clean up, 223–224
 - configure, 185–189
 - configure with Server App, 180–184
 - create/configure, 196–205
 - create/configure local groups, 210–216
 - deleting, 223–224
 - import, 190–192, 205–210
 - manage service account, 192–195, 218–222
 - overview of, 177
 - troubleshoot, 195–196, 217–218
 - locales, Open Directory, 231–232
 - locations
 - Calendar service, 553–554, 558–560
 - shared folder, 352–354
 - locking devices, remotely, 297, 314–315
 - logical disk, as partition, 18
 - login
 - administrator computer to trust SSL certificate, 149
 - authenticate user account, 178
 - bind server to another directory, 240
 - configure existing OS X system, 36, 59

- directory services for multiple computers, 226
 - Messages service, 577, 579
 - remote Server app, 93–94
 - troubleshoot directory services, 244
 - trusted certificates, 134
- logs
- Calendar service, 553
 - File Sharing, 357
 - imported network users, 268
 - Messages service, 571–572, 575–576, 584–586
 - NetInstall, 429–430
 - Open Directory, 244
 - OS X Server, 153
 - troubleshoot Caching service, 439–440
 - troubleshoot DHCP, 491–492
 - troubleshoot directory services, 244
 - troubleshoot File Sharing, 359–360
 - troubleshoot import problems with accounts, 217–218
 - troubleshoot Mail services, 528
 - troubleshoot NetInstall, 413
 - troubleshoot Open Directory, 243, 249–250
 - troubleshoot Profile Manager, 303
 - troubleshoot server installations, 31
 - troubleshoot Software Update, 442
 - troubleshoot VPN, 473–474
 - VPN, 479
 - web services, 501, 516–518
- Logs pane, Server app, 155–156, 584–586
- long name (name), user accounts, 181
- lookup, DNS, 71–73, 79–80, 245
- M**
- MAC addresses, static addresses, 489–490
- Mac App Store
- Apple Remote Desktop from, 92
 - downloading Mavericks from, 17, 32, 410
 - downloading OS X Server from, 26, 46–47
 - initial OS X installation from, 46
 - licensed copy of OS X Server from, 7
 - update OS X Server from, 29
 - use Caching service with, 432
- Mac computers, requirements for this guide, 7
- Mac OS X Extended (Case-Sensitive/Journaled) format, 18
- Mac OS X Extended (Journaled) format, 18
- mail exchange (MX), 83, 524, 526
- Mail service
- clean up, 540
 - compatibility with Contacts service, 587
 - configure DNS for, 526
 - enable, 528–530
 - enable mail for user, 531
 - hosting, 522–523
 - incoming mail blacklists, greylists, and junk filtering, 527, 532–533
 - incoming mail virus scanning, 526–527, 531–532
 - mail quotas for users, 526, 531
 - overview of, 522
 - relay outgoing mail, 526, 530
 - send and receive mail, 533–540
 - troubleshoot, 528
 - understanding, 523–525
- Mainserver, Finder, 44–45
- maintenance
- Caching service, 433–436
 - file sharing service, 356
- maintenance phase, 13
- “Make available for home directories over” checkbox, 343–344
- Manage menu, Server app, 104–105
- Manage Service Access button, 193
- mandatory requirements, for this guide, 7–10
- manual updates, Software Update, 443–445
- Master Boot Record, partition scheme for disks, 18
- Mavericks
- installing before installing OS X, 32
 - this guide for 201: OS X Server Essentials 10.9, 3
 - upgrading to OS X Server for, 28
- MDM (Mobile Device Management), 282
- media, backup, 166
- member server, configure OS X Server as, 227
- Members list, 215–216
- memory, OS X Server requirements on your Mac, 36–37
- Memory Usage graph, 156–157
- Messages service
- compatibility with Contacts service, 587
 - configure on administrator computer, 576–581
 - enable archiving, 575–576
 - features of, 569–570
 - restrict federation, 583–584
 - restrict users, 581–583
 - set up, 573–575
 - troubleshoot, 572–573
 - view chat logs, 584–586
- migration, to OS X Server, 27
- Mobile Device Management (MDM), 282
- modules, Apache, 500
- monitor
- DHCP service, 487
 - Netinstall usage, 429–430
 - Time Machine backups, 462–463
 - web services, 501, 516–518
- monitor OS X Server
- alerts, 154–155
 - logs, 155–156
 - monitor and status concepts, 153–154
 - review logs, 337
 - with Server App, 158–163
 - for server usage, 356–357
 - stats, 156–157
 - storage, 157–158
- monitoring phase, 13
- “More Info” resources, in this guide, 6
- Mountain Lion, 94
- mounted volumes, 410
- multiple groups, 381
- Multiple Networks Detected pane, 50
- multiple profiles, and layering, 302–303
- MX (mail exchange), 83, 524, 526
- My Certificates category, Keychain Access, 124
- N**
- N key, NetInstall client, 427
- Nameserver, additional zone for, 84–87
- naming
- administrator computer, 60
 - blog, 551
 - computer name, 21–22
 - host name, 23–24
 - Local Admin account, 35
 - local hostname, 22–23
 - OS X Server installation, 20–24
 - partitions for multiple partitions on single disk, 19
 - server’s host, 49–54
 - startup volume, 38

- user accounts, 181
 - wiki, 547
 - NAT (Network Address Translation), 99, 432–435
 - nested device groups, 325
 - nested groups, 381–382
 - nested replicas, Open Directory, 229
 - NetBIOS, file sharing, 331
 - NetBoot images, 406, 408–413, 417–420, 422–423
 - NetInstall images, 406, 407–412, 414–416
 - NetInstall service
 - clean up, 430
 - configure Netinstall clients, 427–428
 - configure server for, 420–425
 - filter NetInstall clients, 425–427
 - image creation with NetBoot, 417–420
 - image creation with NetRestore, 420
 - image creation with System Image Utility, 408–412, 414–416
 - manage multiple computers with, 404–408
 - monitor clients, 429–430
 - overview of, 403–404
 - performance, 409
 - requirements for this guide, 7–8
 - shadow files, 412–413
 - share points, 339
 - troubleshoot, 413–414
 - NetRestore images, 406, 408–412, 420
 - Network Address Translation (NAT), 99, 432–435
 - network connection
 - configure OS X on administrator computer, 56–57
 - configure OS X with Setup Assistant, 33
 - troubleshoot DHCP, 490
 - troubleshoot Software Update, 442
 - network directory server, Profile Manager, 282
 - network file service, authentication, 178–179
 - Network File System (NFS), 333, 407
 - network home directory (or folder), 343–344
 - Network Install, 409–412
 - network interfaces
 - changing server's host name, 50–51
 - configure additional, for DHCP, 492
 - configure administrator computer, 62–64
 - configure DHCP service, 485
 - create new website, 506–507
 - evaluating OS X Server requirements, 16
 - setting up DNS, 53
 - troubleshoot DHCP, 490
 - network services
 - DHCP. *see* DHCP (Dynamic Host Configuration Protocol)
 - hosting websites. *see* websites, hosting
 - Time Machine. *see* Time Machine network backup
 - VPN. *see* VPN (virtual private network)
 - network shares, image creation from, 411
 - Network Traffic graph, 156–157
 - Network Utility
 - confirm DNS records, 64–65, 245
 - external DNS server and, 74
 - remove redundant zone, 88–90
 - troubleshoot directory services, 244
 - networking
 - in AirPort device, 99
 - Caching service requirements, 432
 - configure for OS X Server installation, 20–24
 - DHCP, 482–483
 - infrastructure requirements for this guide, 8–10
 - keyword lists for accounts, 182
 - switching between locations, 495–497
 - troubleshoot directory services, 244
 - user accounts. *see* local network accounts
 - NFS (Network File System), 333, 407
 - notes, 5, 182
 - notifications, 154–155, 158–159
- O**
- OFFER, DHCP logs, 491–492
 - On/Off switch, File Sharing service, 338
 - Open Directory locales, 231–232
 - Open Directory master
 - access to services, 233
 - bind server to another Open Directory server, 233, 240–242
 - configure server as, 234–236, 244–249
 - configure server for Profile Manager, 282
 - create Open Directory archive, 236–237
 - enable Profile Manager, 248–285
 - Open Directory replica
 - promoted to, 230
 - role of, 228–229
 - Open Directory pane, Server app, 247, 259
 - Open Directory replica, 229–230, 237–240
 - Open Directory services
 - access to services, 233
 - authentication methods, 255–259
 - binding OS X to, 242
 - certificate authorities, 114, 127
 - components, 227–233
 - concepts, 225–226
 - create archive, 236–237
 - Directory Utility used remotely, 242
 - Kerberos as component of. *see* Kerberos
 - Open Directory locales, 231–232
 - Open Directory master, 228–229, 234–236, 244–249
 - Open Directory replica, 229–230, 237–240
 - overview of, 225, 234
 - standalone server role, 228
 - troubleshoot, 136–137, 242–244, 249–250
 - understanding, 226
 - use another Open Directory server, 233, 240–242
 - open Time Machine preferences, 463
 - OpenLDAP, Open Directory, 227
 - Option key, NetInstall, 428
 - optional add-ons, requirements for this guide, 8
 - Organization Information pane, Profile Manager, 246, 285–287
 - OS X
 - configure on administrator computer, 56
 - required working knowledge of, 4
 - v. 10.9 or later in this guide, 4
 - OS X, configure before installing OS X Server
 - App Store software updates, 41
 - configure network interfaces, 41–43

- confirm computer meets requirements, 36–37
 - download student materials, 44–46
 - energy saver preferences, 40–41
 - establish student number, 32
 - with existing OS X system, 35–36
 - overview of, 31–32
 - prerequisite, 31
 - run Software Update, 44
 - set computer name/turn on remote management, 38–40
 - with Setup Assistant, 32–35
 - startup volume name, 38
 - OS X Recovery system, RAID volumes, 20
 - OS X Server
 - as app installed on top of OS X, 4
 - configure for Contacts service, 589–592
 - hosted DNS, 74
 - learning methodology, 4–5
 - requirements for this guide, 7
 - v. 3.0 in this guide, 4
 - OS X Server for Mavericks, 338
 - OS X Server for Mountain Lion, 228, 338
 - OS X Server, initial installation of
 - configure server for remote administration, 54–55
 - configure server's host name/DNS records, 49–54
 - install Server app, 46–47
 - open Server app, 47–49
 - prerequisite, 46
 - OTA (over the air) management of devices, 282
 - Others permission, file access, 364
 - outgoing mail, 533–537, 557
 - Overview pane, Server app, 95–96
 - ownership
 - configure access with File Sharing pane, 363
 - configure ACLs with Storage pane, 372–374
 - Messages service logs and, 572
 - POSIX, 368–369
- P**
- packages, Mail service email, 523
 - parameter random-access memory (PRAM), and NetInstall, 428
 - parameters, website, 504–506
 - Partition Layout menu, 19
 - partitioning disks, 17–20
 - passcode, 297, 315
 - Password Assistant button, 252
 - Password Server, Open Directory, 257–259
 - passwords
 - administer server with Server app, 69–70
 - configure Messages, 577, 579
 - Contacts service, 590
 - directory services for, 226
 - global password policies for, 257–259, 273–275
 - Local Admin account, 34
 - local network account user, 252
 - Open Directory, 245–246, 255
 - troubleshoot NetInstall, 413
 - user account, 177–178, 191–192, 209–210
 - Peachpit, downloading student materials from, 45–46, 67
 - performance, 156–157, 440
 - perimeter networking, hosting websites, 499
 - permissions
 - access control, 384–388, 392–400
 - access with File Sharing pane, 364
 - access with Storage pane, 366–368
 - ACE vs. POSIX, 370
 - ACLs, 372–374
 - ACLs and POSIX, 382–383
 - enable guest access, 365–366
 - Messages, 572, 579–581
 - POSIX, 368–369
 - in Storage pane vs. File Sharing pane, 399–400
 - validating, 366
 - web service folder, 511
 - wiki, 547–548, 551
 - Permissions dialog, 367–368, 373
 - phases, OS X Server, 13
 - PKI (public key infrastructure), SSL certificates, 111–112
 - placeholders, 322–324
 - planning and installation phase, 13
 - Point to Point Tunneling Protocol (PPTP), VPN service with, 468–469
 - policies, global password, 257–259
 - POP (Post Office Protocol), Mail service, 525
 - port forwarding, hosting websites, 499
 - port numbers
 - manage websites, 500–501, 506–510
 - Messages service, 570–571
 - troubleshoot Calendar service, 555
 - troubleshoot Contacts service, 588
 - troubleshoot Messages service, 573
 - troubleshoot Wiki service, 542
 - portability, ACL, 378
 - POSIX (Portable Operating System Interface)
 - configure access control, 384–400
 - configure access with File Sharing pane, 362–364
 - configure ACLs with Storage pane, 372–374
 - features common to ACLs and, 375–382
 - ownership and permissions, 368–369
 - rules of precedence, 382–383
 - Post Office Protocol (POP), Mail service, 525
 - Postfix email package, Mail service, 523
 - power adapter, Energy Saver for laptop, 40
 - PPTP (Point to Point Tunneling Protocol), VPN service with, 468–469
 - PRAM (parameter random-access memory), and NetInstall, 428
 - preferences
 - default share point, 339
 - Internet Accounts, 533–537
 - profile, 306
 - Profile Manager, 298–302
 - Profile Manager web app, 317–321
 - Sharing, 92–93
 - system. *see* System Preferences
 - Time Machine, 456–459
 - Users & Groups, 179
 - users in group, 292
 - primary zone, DNS, 73, 80–82, 84–88
 - private keys, 112, 124–126
 - Processor Usage graph, 156–157
 - Profile Manager
 - configure computers for Software Update, 445–449
 - configure server as Open Directory master, 233
 - enable, 283–290
 - Mobile Device Management, 281
 - overview of, 281
 - preparations for, 282–283
 - save configuration profile for VPN, 473
 - terminology, 282

- User Portal, 281
 - web app, 281
 - Profile Manager, account management apps, 293–295
 - clean up, 326
 - create device account
 - placeholder, 322–323
 - create/populate device group, 323–325
 - deliver profiles, 296–297
 - device group accounts, 292–293
 - introducing, 291
 - layering and multiple profiles, 302–303
 - levels of, 292
 - manage profiles locally, 325–326
 - manageable preferences, 298–302
 - preferences for users in group, 292
 - remote lock/wipe device, 297
 - troubleshoot, 303–304
 - User Profile Portal, 305–315
 - using, 315–322
 - Profile Manager Library, 322–324
 - Profile Manager web app, 316–322
 - Profile pane, User Profile Portal, 305–339
 - profiles
 - configure computers for
 - Software Update, 445–449
 - delivering, 296–297
 - layering and multiple, 302–303
 - levels of account management, 292
 - managing locally, 325–326
 - overview of, 282
 - troubleshoot, 303–304
 - troubleshoot Software Update, 442
 - propagating permissions, 366–367, 379
 - protocols
 - file sharing, 331–334
 - Mail service, 524–525
 - Provide Server Feedback, 107
 - public key infrastructure (PKI), SSL certificates, 111–112
 - public keys, PKI, 112
 - push notifications
 - configure with Server App, 158–160
 - deliver profiles via, 296–297
 - enable, 154
 - enable Profile Manager, 287–288
 - enable with Apple ID for Profile Manager, 282–283
 - in Settings pane of Server section, 96
 - troubleshoot profiles, 304
- Q**
- Quick Look, files in wiki or blog, 542
 - quotas, enabling mail, 526, 531
- R**
- RAID (Redundant Array of Independent Disks), 20
 - RAM, OS X Server requirements, 17
 - Read permissions, 375
 - realms, Kerberos, 259–261
 - receive email. *see* send and receive mail
 - Redundant Array of Independent Disks (RAID), 20
 - reference sections, in this guide, 5
 - reimport exported certificate, 144–145
 - relay agent, DHCP, 484
 - relay outgoing mail, Mail service, 526, 530
 - remote access, configure, 91–94
 - remote administration, 54–55, 237–240
 - remote backups, 167
 - remote computers, 242
 - Remote Management
 - devices, 310–314
 - enable, 39–40
 - enable for administrator computer, 60–61
 - manage profiles locally by removing, 325–326
 - remote server computer
 - allow remote access with, 91–93
 - take control using Screen Sharing, 94, 108
 - troubleshoot, 106–107
 - view file sharing service
 - logs, 337
 - remotely locking/wiping devices, 297
 - removable disk, 67
 - remove
 - administrator status of user, 186
 - redundant zone, 88–90
 - Remote Management, 325–326
 - share points, 342
 - renew, SSL certificates, 126–127
 - requestor, DNS, 72
 - requirements
 - availability, 17
 - Caching service network, 432
 - disk space, 16
 - evaluating on Mac, 36–37
 - File Sharing services, 334–335
 - minimum hardware, 14
 - RAM, 17
 - speed of network interface, 16
 - verifying system, 14–15
 - Reset Password, import user accounts, 191–192
 - resources, add in Calendar service, 554
 - resources, add to Calendar service, 558–560
 - restore
 - testing, 166
 - from Time Machine backup, 167, 173–174
 - from Time Machine network backup, 463–465
 - restrictions, Messages, 581–584
 - root CAs, 113, 129
 - root server, DNS, 72
 - router, requirements for this guide, 8
 - routes, VPN, 472
 - rules of precedence, POSIX and ACL, 382–383
- S**
- Safari
 - create new website, 508–510
 - enable web services, 502–504
 - enable Wiki service, 544–546
 - managing website access, 512
 - SSL for website security, 515–516
 - schedules, Calendar service, 553–554, 560–567
 - scope, DHCP networks as, 483
 - Screen Sharing
 - enable in Server app, 107–108
 - monitor OS X Server, 162
 - remote access in Server app, 92–93
 - remotely administer System Preferences, 179
 - Search Domains field, 42–43, 494
 - search domains, VPN, 471
 - searching accounts, 182
 - secondary zone, DNS, 73
 - Secure FTP (SFTP), 334
 - security
 - legacy clients using NFS and, 333
 - with VPN. *see* VPN (virtual private network)
 - website, 513–516
 - self-signed certificates

- archived, 126
- certificate signing request for, 137–140
- with Change Host Name Assistant, 117
- choosing, 115
- configure trusted, 133–135, 147–151
- defined, 112–113
- generate, 119, 122–124
- inspect, 125–126
- reimport exported, 144–145
- renew, 127
- troubleshoot SSL, 136–137
- send and receive mail
 - check reply, 539–540
 - Internet Accounts preferences, 533–537
 - overview of, 537–539
 - troubleshoot, 528
- Send Test Alert, 162
- Server Admin, NetInstall usage, 429–430
- Server app
 - change names/numbers with, 24–26
 - change service data location with, 19
 - configure administrator computer with, 68–70
 - configure host name with, 23
 - configure server with, 13
 - defined, 26
 - download, 26–27
 - install, 27–28
 - use as nonadministrator user, 204–205
- Server app, exploring
 - Accounts section, 101
 - AirPort, 98–101
 - allowing remote access, 91–94
 - Enable screen sharing and remote management, 107–108
 - Help and Server Tutorials, 105–106
 - inspect service data volume, 109
 - Manage menu, 104–105
 - Server section, 94–98
 - Services, 101–103
 - Settings pane, 96–98
 - sidebar elements, 94–103
 - Tools menu, 105
 - troubleshoot, 106–107
- Server Message Block 2. *see* SMB2 (Server Message Block 2)
- Server section, Server app
 - Alerts pane, 154–155
 - Logs pane, 155–156
 - overview of, 94–95
 - Overview pane, 95–96
 - Settings pane, 96–98
 - Stats pane, 156–157
 - Storage pane, 98
- Server Tutorials, Server app, 105–106
- service data location, 19, 96–98
- service data volume, 109
- services
 - access for imported network user groups, 270
 - access for imported network users, 267
 - access for local network account user, 253
 - access management, 192–195, 218–222
 - advanced, 102–103
 - AirPort pane exposing, 99
 - basic OS X Server, 101–102
 - configure server as Open Directory master, 248
 - configure server to use certificate, 128–129, 145–146
 - create local users for access to, 185
 - Server app sidebar, 101
 - Time Machine backup for, 168
 - troubleshoot access to, 196
 - troubleshoot File Sharing, 346
 - understanding access to, 233
- Settings pane, Server app, 96–98
- Setup Assistant, 32–35, 56–58
- SFTP (Secure FTP), 334
- shadow files, 412–413
- share points
 - add and remove, 339–342
 - choose when accessing file server, 330
 - configure access control, 385, 393–400
 - configure individual, 342–343
 - create new, 354–356
 - create new location for, 352–354
 - default, 339
 - enable guest access, 365–366
 - File Sharing and, 338–339, 355–356, 362–364, 371–372
 - for home directories, 343–344
 - overview of, 337–338
 - sharing folder over different protocols, 333
 - test, 335
 - verifying NetInstall configuration, 423–424
 - WebDAV, 331–332
- Share Points pane, 338
- shared directory node, 265–268, 269–270
- shared folders. *see also* share points
 - configure access control, 385–387, 393, 397, 400
 - configure access with File Sharing pane, 362
 - create for group, 356–358
 - create new, 354–355
 - create new location, 352–354
- Shared Items folder, 456
- shared secrets, VPN, 470, 475
- sharing files. *see* File Sharing services
- Sharing pane, Server app, 338
- Sharing preferences
 - configure remote access, 92–93
 - default share points, 339
 - System Preferences, 24–25
- short (account) name, user accounts, 181
- Show All Records, DNS host, 81
- Show System Accounts, 195, 223–224
- signed certificate
 - enable Profile Manager, 282–283
 - import, 122, 140–142
 - renew, 127
 - in Server app workflow prior to version 2.2, 123
- silhouette
 - create for group, 213
 - create for new user, 198, 200
- Simple Mail Transfer Protocol (SMTP), Mail, 524, 526, 530
- single sign-on, Kerberos, 259–264
- S.M.A.R.T (Self-Monitoring, Analysis and Reporting Technology) status, 158
- SMB2 (Server Message Block 2)
 - as file sharing protocol, 331
 - file sharing protocol comparison, 334
 - guest access checkbox affecting, 343
 - sharing folder over different protocols simultaneously, 333
 - view connected users, 345–346
- SMTP (Simple Mail Transfer Protocol), Mail, 524, 526, 530
- snapshots feature, Time Machine, 168
- Snow Leopard, 94
- SoA (Start of Authority), 75
- Software Update service. *see* SUS (Software Update service)
- sorting
 - accounts, 182
 - ACLs canonically, 378, 382–383
 - spam control, Mail, 527–528, 532–533

- SpamAssassin software package, 532
 - Split DNS, 74–75
 - Spotlight search, 27, 64–65, 245
 - SSH service, SFTP, 334
 - SSL certificates
 - administer server with, 69
 - bind server to another directory with, 241
 - Calendar service, 558
 - in Change Host Name Assistant, 23, 25
 - clean up, 151
 - Contacts service, 590–591
 - kind of certificate to use, 115
 - Mail service, 529
 - Messages service, 574
 - overview of, 114
 - Profile Manager, 282, 287
 - secure website with, 513–516
 - signing request for, 137–140
 - troubleshoot, 136–137
 - understanding, 111–114
 - WebDAV service, 332, 334
 - wiki site, 542, 545
 - SSL certificates, configuring
 - add new, 119
 - archive, 126, 142–145
 - following chain of, 129–133
 - import signed, 122, 140–142
 - inspection of, 124–126
 - overview of, 115–116
 - renew, 126–127
 - self-signed, 122–124
 - server to use new, 128–129, 145–146
 - troubleshoot, 136–137
 - trusted, 119–122, 133–136, 147–151
 - viewing server's default, 115–118
 - standalone server, 228, 233
 - start, File Sharing services, 335–336, 351–352
 - Start of Authority (SoA), 75
 - startup, configure NetInstall, 427–428
 - startup disk, 37
 - startup volume name, 37, 38
 - static addresses, DHCP, 484, 489–490
 - static IPv4 addresses, 21
 - stats, monitoring OS X Server, 153
 - Stats pane, Server app, 156–157, 337, 435–436
 - stop, File Sharing service, 351–352
 - storage
 - backup via cloud-based, 166
 - configure Software Update, 443–445
 - of files for Wiki service, 542
 - shadow file, 412–413
 - Storage pane, Server app
 - complex permissions for ACEs, 374–375
 - configure ACLs, 372–374
 - configure file access, 362, 366–368
 - create new location for shared folders, 353
 - monitor OS X Server, 157–158
 - monitor server for problems, 337
 - overview of, 98
 - permissions in File Sharing pane vs., 399–400
 - propagate permissions, 379
 - service maintenance tasks, 336
 - student materials
 - download, 44–46, 66–68
 - requirements for this guide, 8
 - student number
 - chang server's host name, 50–51
 - configure OS X, 32
 - name administrator computer, 60
 - specify computer name with, 38–39
 - subnets, DHCP, 484–488
 - SUS (Software Update service)
 - Caching service vs., 436–438
 - clean up, 449
 - configure, 44, 443–445
 - configure computers for, 66, 445–449
 - enable individual updates, 444–445
 - manage software updates, 438, 441–442
 - troubleshoot, 442
 - synchronizing clocks, in Open Directory, 229
 - system group files, 195
 - System Image Utility
 - NetBoot/NetRestore image creation, 417–420
 - NetInstall image creation, 408–409, 414–416
 - using Network Install, 409–412
 - System keychain, 124–125
 - System Preferences
 - administrator computer, 58–64
 - App Store software update, 41
 - bind server to another directory, 240–242
 - default share points, 339
 - DHCP additional network interface, 493–494
 - Energy Saver, 40–41, 61
 - networking, 41–43, 62–64
 - new administrator account, 35–36
 - new website, 506–510
 - Remote Management, 39–40, 60
 - remotely administering, 179
 - send and receive mail, 533–537
 - Time Machine, 170–172, 463–464
 - verifying Web service uses new certificate, 147
 - system requirements, OS X Server, 14–15
 - System Roots keychain, trusted CAs in, 113–114
- T**
- tape, as backup media, 166
 - template, create user, 184, 202–204
 - temporary destinations, Time Machine backups, 169–172
 - Terminal app
 - Mail service, 524
 - Messages service and chat logs, 585–586
 - web services, 517
 - test
 - alerts, 162
 - Caching service, 438
 - groups, share points and ACLs, 335
 - text
 - converting certificate into file from, 122
 - import users from delimited text file, 206–208
 - TextEdit
 - configure access control, 388–391
 - convert certificate from text into file, 122
 - create new website, 507
 - restore from network Time Machine destination, 463
 - using SSL for website security, 514
 - TFTP (Trivial File Transfer Protocol), NetInstall client, 407
 - TGT (ticket-granting ticket), Kerberos, 260–264
 - Thunderbolt, NetBoot image creation, 417
 - Ticket Viewer, Kerberos, 261–264
 - Ticket-granting ticket (TGT), Kerberos, 260–264
 - tickets, Kerberos, 259–264
 - tier one replica, Open Directory, 229
 - tilde character (~), home folder, 217
 - Time Machine backup
 - access to File Sharing and, 219
 - configure, 170–172

- continuous data protection
 - for, 166
 - for network home folders, 344
 - Open Directory archive created during, 236–237
 - Open Directory replica
 - promoted to master and, 230
 - overview of, 167–168
 - restore from, 173–174
 - temporary destinations, 169–170
 - Time Machine network backup
 - clean up, 465–466
 - configure as network service, 453–457
 - configure OS X computer for, 457–461
 - inspect status, 461–463
 - overview of, 453
 - restore from destination, 463–465
 - Time To Live (TTL), DNS records, 72
 - time zones, 34, 58
 - timestamps, 229, 264
 - “Tip” resources, in this guide, 5
 - TLD (top-level domain) server, DNS, 72
 - Tools menu, Server app, 105
 - top-level domain (TLD) server, DNS, 72
 - training, Apple, 10–11
 - Trash, after Time Machine backup, 464–465
 - Trivial File Transfer Protocol (TFTP), NetInstall client, 407
 - troubleshooting
 - Caching service, 438–440
 - Calendar service, 555
 - Contacts service, 588
 - DHCP, 490–492
 - DNS service in OS X Server, 76–77
 - File Sharing service, 346–347, 359–360
 - Kerberos, 264–265
 - local user accounts, 195–196
 - Mail services, 528
 - Messages service, 572–573
 - NetInstall service, 413–414
 - Profile Manager, 303–304
 - Server app, 106–107
 - server installations, 30–31
 - Software Update service, 442
 - SSL certificates, 136–137
 - using Ticket Viewer as tool for, 262
 - VPN, 473–474
 - web services, 501–502
 - Wiki service, 542
 - trust
 - Apple trusted CAs, 113–114
 - binding server to another directory, 241
 - configure administrator computer for SSL, 147–151
 - configure Contacts service, 590
 - secure website using SSL, 515–516
 - trust profile, 306–309
 - trusted CAs, 148–151
 - trusted certificates
 - certificate chain, 129–133
 - configure, 133–136
 - Get a Trusted Certificate, 119
 - obtain, 119–122
 - TTL (Time To Live), DNS records, 72
- U**
- UIDs (user IDs), 183–184, 379
 - uninterruptible power supply (UPS), 17
 - UNIX OS, reliance on DNS, 71
 - Unmask variable, POSIX permissions, 369
 - updates
 - App Store software. *see* App Store software updates
 - configure App Store software, 41
 - OS X Server, 29–30
 - Software Update. *see* SUS (Software Update service)
 - “Updates & Errata” document, 6
 - upgrades
 - to OS X Server, 27
 - as planned event, 29
 - from Snow Leopard, Lion, or Mountain Lion, 94
 - upload attachments, to wikis, 549–550
 - UPS (uninterruptible power supply), 17
 - URLs, 334, 501
 - usage, Caching service, 435
 - user accounts
 - Advanced Options, 183–184
 - configure local, 185–189
 - configure with Server App, 180–181
 - create templates, 184
 - defined, 292
 - disable to prevent access, 256–257
 - import, 190–192
 - plan File Sharing services, 355
 - Profile Manager manageable preferences for, 298–300
 - tools to administer, 179
 - troubleshoot import, 195–196
 - using keywords and notes, 182
 - User IDs (UIDs), 183–184, 379
 - user names
 - directory services for, 226
 - user accounts, 177–178
 - VPN service, 470
 - User Portal, Profile Manager, 281, 296, 297
 - User Profile Portal, 305–315
 - Users & Groups pane, System Preferences
 - bind server to another directory, 240–242
 - define local users and groups, 179
 - enable user to administer server, 186
 - understand default share points, 339
 - Users pane, Server app, 101, 197–198, 259, 336
- V**
- vCard, Contacts service, 587
 - View Alert, 155
 - View Certificate, 117
 - virus scanning, 526–527, 531–532
 - volumes
 - Caching service, 434–435, 440
 - change name of startup, 38
 - create multiple partitions on single disk, 19–20
 - NetInstall images, 408
 - OS X Server requirements, 37
 - overview of, 18
 - RAID, 20
 - Time Machine, 169, 454
 - VPN (virtual private network)
 - clean up, 479–480
 - configure service, 474–476
 - configure with Server app, 468–473
 - examine logs, 479
 - install VPN profile on administrator computer, 476–479
 - overview of, 467–468
 - troubleshoot, 473–474
 - VPP (Volume Purchase Program), 289–290, 293–295

W

- web link, deliver profiles to users
 - via, 296
- Web service software, 499
- Web services, enabling. *see also*
 - websites, hosting
 - create new website, 506–510
 - manage website access, 511–513
 - start Websites service, 502–504
 - verify folder access, 511
 - view website parameters, 504–506
- web tool, Profile Manager, 281
- WebDAV (Web-based Distributed Authoring and Versioning), 331–334
- websites, hosting
 - basic website structure, 500–501
 - disable website, 519
 - enable web services, 502–513
 - monitor web services, 501, 516–518
 - secure website, 513–516
 - troubleshoot, 501–502
 - web service software, 499
- Websites pane, Server app, 507–508, 512
- Websites service, starting, 502–504
- well-known ports, 468
- widely trusted CA, 114–115, 127
- Wi-Fi connection
 - configure network interface, 41
 - configure OS X on
 - administrator computer, 56–57
 - configure OS X with Setup Assistant, 33
 - trigger alerts, 162
- Wiki service
 - add calendars to wikis, 554, 567
 - deleting wikis, 552
 - editing wikis, 549–552
 - enable, 542–548
 - troubleshoot, 542
 - understanding/managing wikis, 541–542
- wipe devices, remotely, 297
- With Delegates Approval, Calendar service, 554
- Workgroup, 248–249, 252–253
- Workgroup buddy list, Messages service, 579–581
- Workgroup Manager, 192, 195, 258
- write permissions, 375

X

Xcode, computer name in, 22

Z

- zero-configuration networking, 20, 23
- zone files, DNS, 73, 84–88
- zone transfer, DNS, 73